



# Learning to Teach to the Common Core State Standards: Examining the Role of Teachers' Collaboration, Principals' Leadership, and Professional Development

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**Learning to Teach to the Common Core State Standards: Examining the Role of Teachers'  
Collaboration, Principals' Leadership, and Professional Development**

Elizabeth Leisy Stosich

Susan Moore Johnson

Richard Elmore

Jal Mehta

A Thesis Presented to the Faculty of the Graduate School of Education of Harvard University in  
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## **Abstract**

Recent research on the relationship between standards and teachers' practice suggests that teachers are unlikely to make changes to practice without extensive opportunities for learning about standards with colleagues. My dissertation extends this line of research, using a comparative case study of three-high poverty urban schools to examine the nature of teachers' learning about the Common Core State Standards and the processes and conditions that support this work. I take a situated perspective, exploring how teachers engage in professional learning in their school context. Chapter one explores the potential for collaboration in teacher teams to support this learning. It argues that collaborative practices that encourage joint examination of instruction and student learning against standards support teachers in noticing and attending to differences between their current practice and standards. In addition, it examines the role of teachers' instructional knowledge and principals' leadership in supporting teachers' collaboration around standards. Chapter two examines how principals encourage and constrain professional learning as they frame school improvement efforts. It argues that teachers are more likely to revise their instruction to align with the new standards when principals frame the challenge presented by standards as one that requires learning to work with students and content in new ways rather than simply one that requires teachers to execute specific pedagogical approaches. Finally, chapter three explores the efforts of a professional development network to build both teacher and school capacity for teaching the Common Core State Standards and proposes a set of principles to guide future efforts to design professional development that builds capacity for teaching to ambitious standards in high-poverty schools.

## **Chapter 1.**

### **From Sharing to Joint Inquiry: Teachers' Collective Learning about the Common Core in High-Poverty Urban Schools**

#### **Introduction**

The Common Core State Standards (CCSS) were designed to set ambitious expectations for what students should know and be able to do in grades K-12. Beginning in the 1980s, the standards movement sought to foster excellence and equity in student learning outcomes by institutionalizing high expectations for all students, while allowing teachers to have professional discretion in deciding how to support students in meeting these goals (Payne, 2008). As explained in the introduction to the CCSS,

By emphasizing required achievements, the Standards leave room for teachers, curriculum developers, and states to determine how those goals should be reached... Teachers are thus free to provide students with whatever tools and knowledge their professional judgment and experience identify as most helpful for meeting the goals set out in the Standards. (Common Core State Standards Initiative [CCSSI], 2010, p. 4)

Helping students meet these standards presents a major challenge for teachers since they ask students and, consequently, teachers to learn to work in new and challenging ways.

The CCSS require students to engage in more critical thinking and less routine learning than previous state standards and, thus, represent a major shift from teachers' reported instructional practice (Porter, McMaken, Hwant, & Yang, 2011). For example, the standards call for students to apply conceptual and procedural knowledge to solve novel problems in mathematics rather than simply memorizing procedures and executing

them with common problems. Correspondingly, teachers must apply their professional judgment to support students in meeting the unfamiliar and demanding goals set by new standards, rather than merely executing a prescribed set of pedagogical strategies.

Scholars argue that policy implementation is best understood as a challenge of teacher learning (Cobb & Jackson, 2012; Coburn & Stein, 2006; Little, 1999). Any policy that asks people to work in new ways requires some degree of learning to be successful (Cohen & Barnes, 1993). Researchers argue that previous standards failed to produce widespread improvements in teaching and learning because teachers had few opportunities to fully understand the ideas behind standards and their implications for practice (Cohen & Ball, 1999; Cohen & Hill, 2001; Spillane, 2004). Decades of educational reform reveal that policies calling for ambitious change on the part of teachers have frequently been paired with less ambitious support for learning (Cohen & Barnes, 1993; Elmore, 2004). One explanation is that deep divisions in American politics lead policymakers to adopt vague policy goals and learning supports. Although still politically divisive, standards have gained broad support by institutionalizing high expectations for all students without dictating the methods or resources that would be used to meet standards, thus allowing for teacher, district, and state influence (Rothman, 2011).

Although the CCSS were designed to clearly define ambitious standards for what students should know and be able to do, previous research indicates that teachers' interpretations of standards and their meaning for practice vary widely (Coburn, 2001; McDonnell & Choiser, 1997; Rothman, 2011). Scholars have applied a cognitive framework to understand how teachers engage in "learning," "interpretation," or



“sensemaking” about policy (Coburn, 2005; Spillane, Reiser, & Reimer, 2002). This line of research reveals that teachers' understanding of and actions related to instructional policy are influenced by their prior knowledge and beliefs, connections to policy messages, and the social context within which they work (Coburn, 2004, 2005; Cohen & Ball, 1999; Spillane, Reiser, & Gomez, 2006; Weick, 1995). Examination of individual teachers' work with standards reveals that teachers are likely to view standards as similar to their current practice (Cohen, 1990; Spillane et al., 2006), respond only to aspects congruent with current practice and beliefs (Coburn, 2001; Spillane, 2004), or adopt reforms only superficially (Coburn, 2008), rather than completely revising their practice and beliefs to align with standards. When teachers work collaboratively around standards-based curriculum and assessments they may be better able to translate abstract standards into explicit changes in their instructional practice (Coburn, 2008; Spillane, 2004). What remain unknown are the collaborative processes and conditions that support teachers in working with colleagues to learn to teach to new standards.

I conducted a comparative case study of 26 teachers in three high-poverty schools in a large urban district in the Northeastern United States over the course of one year (2013). My goal was to understand in some detail the collaborative processes and conditions that support teachers in learning how to support students in meeting the CCSS. Standards-based accountability policies have increased pressure on teachers to work with colleagues. Collaboration among colleagues has the potential to support the job-embedded learning necessary for teachers to enact practices that assist students in meeting standards. Meeting the more demanding expectations set by the CCSS presents a significant learning challenge for teachers in these three high-poverty schools since many

of their students failed to meet previous state standards in mathematics and English language arts and reading (ELAR), as measured by the state assessments.

This district provides a rich context for examining teachers' learning about standards with colleagues. The district had adopted policies focusing on teacher teams as a key structure through which teachers could learn about standards. The district encouraged teams of teachers to collaboratively design curriculum units aligned with the new standards and engage in an inquiry process to learn how to support students in mastering standards. In addition, the district developed the Common Core Innovation Network, a professional development program that assisted teachers in engaging in both of these activities, in which the three schools in this study volunteered to participate. In doing so, they agreed to be early adopters of the new standards and receive additional support during this process. These schools were some of the first in the country to require teachers to teach to the CCSS, adopt CCSS-aligned curricular materials, and administer CCSS-aligned state assessments. Learning from their experience presents a timely opportunity as teachers across the country seek to respond to these new standards.

My findings suggest that collaborative practices that encourage joint examination of instruction and student learning support teachers in noticing and attending to differences between their current practice and standards. All teachers in the study worked with colleagues to plan instruction, select resources, and use data on student learning; however, the degree to which this collaboration supported teachers in understanding the gap between current practice and the expectations of the CCSS varied greatly across and within schools. I examine the collaborative practices of teachers and the conditions that

support these practices in three high-poverty schools: Bay, Park, and Sunnyside Elementary.<sup>1</sup>

### **Theoretical Framework: Policy Implementation as Teacher Learning**

There is growing agreement among scholars that educational policy is better understood as a challenge of teacher learning than as a challenge of “implementation,” since the success of any instructional policy is largely determined by the individual and collective capacity of teachers to meet the policy’s goals (Cobb & Jackson, 2012; Gallucci, 2003; Little, 1999; Spillane et al., 2002; Spillane et al., 2006). The policy logic behind the CCSS presumes that teachers will produce superior and more equitable student outcomes if expectations for student learning are clear at each grade-level, build progressively towards career and college readiness, and all students are held to these same high expectations. However, many teachers may not know how to support students in reaching these standards. Recent research suggests that teachers fail to align their instruction with standards because they misunderstand the underlying principles behind policy and their implications for practice (Spillane et al., 2002; Spillane, 2004). This misunderstanding of policy is unsurprising since translating standards into changes in practice requires extensive learning. Teachers must comprehend the meaning of the standards themselves, the way their instruction would need to change to meet these standards, and, ultimately, they must learn how to work in these new ways.

Opportunities for teacher learning are essential because the expectations outlined in the CCSS are more ambitious than those of previous state standards. Porter and

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<sup>1</sup> All names of schools, organizations, and people are pseudonyms.

associates (2011) conducted a comparative analysis of the CCSS and state standards, assessments, and teachers' reports of their instructional practice from 31 states, including the state in which these three schools are situated. Their findings revealed that the CCSS placed more emphasis on cognitively demanding processes than previous state standards and assessments. For example, a higher proportion of CCSS required students to "demonstrate understanding" in mathematics and "analyze" in ELAR than current state standards. In addition, a lower proportion of CCSS required students to engage in less cognitively demanding processes, such as memorization, than state standards. Teachers also reported placing more emphasis on less cognitively demanding processes during instruction than called for by the CCSS. Teachers may lack the knowledge and skills needed to engage in more complex practices. Researchers find that teachers' practice is weakest in areas that involve more complex tasks, such as problem solving and asking high-level questions (Kane & Staiger, 2012; Sartain, Stoelinga, & Brown, 2011). Thus, teachers will need not only to adjust to the higher level of cognitive demand of the standards, but also to learn how to effectively lead high-level instruction.

Framing the standards as a challenge of teacher learning runs counter to current federal "turnaround" efforts. So-called "turnaround" policies continue to call for firing and replacing principals and teachers in low performing schools. This approach is based on questionable evidence, disproportionately affects low-income communities of color (Trujillo & René, 2012), and alienates the very people who must solve the challenge of improving student performance. Supporting students, particularly students living in poverty, in meeting the demands of the CCSS requires much more than bringing in new personnel. It requires changing the way teachers think about instruction and carry out

their work with students each day. This article examines the collaborative practices and conditions that support teachers' learning as they respond to pressure from the CCSS to support students' learning in new ways.

### ***Making sense of standards, transforming practice***

Drawing on cognitive learning theory, scholars argue that teachers' learning about policy is influenced by their existing knowledge and beliefs, social interactions, and connections with messages about policy (Coburn, 2001; Spillane et al., 2006; Weick, 1995). Teachers learn about instructional policy through a system of "instructional guidance" (Cohen, 1995) comprised of diverse and loosely connected factors (Coburn, 2008). Standards and the curriculum, assessments, and professional development (PD) that are designed to align with these standards communicate information about the meaning of standards and what teaching to these standards would look like in practice. Cohen and Hill (2001) surveyed teachers about their experiences with ambitious mathematics standards in California. The teachers they surveyed were more likely to report implementing standards-aligned practices, and students achieved at higher levels in schools that provided substantial opportunities for teachers to learn about standards-aligned curriculum and assessments. However, only a small proportion of schools—about 10 percent—fostered these intensive opportunities for learning. This research highlights the importance of learning opportunities that are firmly grounded in practice. Further research is needed to identify the specific learning experiences that support teachers in using standards-based curriculum and assessments in ways that lead to improvements in teaching and learning.

Research that examines the experience of individual teachers with instructional policies suggests that teachers are likely to ignore, misunderstand, or only superficially adopt policies that depart from their current practice (Coburn, 2004; Spillane, 2004). Teachers make sense of policies through the lens of their existing knowledge and beliefs, “supplementing” rather than “supplanting” existing knowledge and practice (Cohen & Weiss, 1993, p. 227). In fact, teachers may layer new practices on top of existing practices in ways that do not fully address the goals of policy or that conflict with policy principles (Coburn, 2004; Spillane, 2004), which Cuban (1984) calls “conservative progressivism.” For example, Cohen (1990) described a teacher who adopted new topics but taught them using a traditional pedagogical approach, which failed to encourage the deep conceptual understanding that the mathematics policy was designed to foster.

The process of learning to teach to standards is challenging because it requires “[d]eveloping new understandings of familiar ideas such as problem solving” (Spillane, 2004, p. 157). Teachers must forsake previous practices and beliefs and develop alternative ones to meet the goals set by new standards (Strike & Posner, 1992). Teachers who accept the logic behind new and higher standards risk harming their self-concept (Spillane et al., 2002) because these standards imply that current practice is inadequate for reaching expectations for student learning (Cohen, Moffit, & Goldin, 2007). Instead, teachers often view new policies as similar to their existing practice (Cohen, 1990; Hill, 2001; Spillane & Callahan, 2000; Spillane et al., 2006). Viewing reforms as familiar can lead to misinterpretation, rejection of information that conflicts with current beliefs, and consequently make restructuring knowledge and practice all the more difficult. This

presents a paradox: teachers are both the targets of policy and the ones tasked with figuring out how to meet policy goals.

Intensive and ongoing collaboration with colleagues around standards may be essential for successful adoption of standards-based instructional practices (Cohen & Hill, 2001; Coburn, 2001). Spillane (2004) found that teachers whose practice most closely aligned with ambitious mathematics standards all described learning about standards as a social endeavor. The teachers he studied engaged in on-going collegial deliberation about standards, which was grounded in instructional practice, such as conversations about standards-based curriculum and ideas from professional development. However, this collective sensemaking process does not guarantee that teachers will adopt practices that align with policy goals. In fact, teachers who collaborate closely with colleagues who hold beliefs and practices that conflict with policy goals may be more likely to reject policy than teachers who work in isolation (Gallucci, 2003).

Nonetheless, Spillane (1999) argues that teachers are unlikely to “notice opportunities for learning, or stimuli for change in their environment” when working in isolation (Spillane, 1999, p. 169). Teachers are motivated to revise their instructional practice to align with standards when they notice differences between their current practice and the goals of standards and view these goals as worthwhile. Teachers’ practice becomes public and differences in beliefs and practices are more likely to surface when teachers work interdependently with colleagues, what Little (1990) describes as “joint work.” To date, however, scholars have not closely examined the collaborative processes that support teachers in learning how to teach to new standards.

Coburn and Stein (2006) describe “policy implementation as a process of learning that involves gradual transformation of practice via the ongoing negotiation of meaning among teachers” (p. 26). Working with colleagues to select instructional practices and materials, try them out, and reflect on their effectiveness in supporting students meet standards may be an important part of identifying and beginning to bridge the gap between policy and current practice. Research on teachers’ professional learning suggests that engaging in sustained inquiry with colleagues encourages teachers to question underlying assumptions and current practices, rethinking their beliefs and practice over time (Earl & Timperley, 2009; Gallimore, Ermeling, Saunders, & Goldenberg, 2009). This line of research has generally explored whether using particular protocols for investigating teaching and learning with colleagues leads to improvement in teaching and learning over time. However, requiring teachers to use particular inquiry protocols can result in what Hargreaves (1994) calls “contrived collegiality,” which does not lead to any meaningful change in practice. I explore teachers’ collaborative practices more broadly to understand the specific processes and conditions that support teachers in learning about standards and how to enact them in practice. Specifically, I seek to answer the following questions:

- How do teachers come to understand and enact practices related to the CCSS?
- How, if at all, does teachers’ collaboration with colleagues relate to the way teachers say that they come to understand and enact practices related to the CCSS?

## **Methods**



In this study I examine how teachers come to understand and enact practices related to the CCSS *in situ*. I take a social learning perspective, assuming that teachers actively make sense of messages about policy in the context of their school environment and in collaboration with colleagues (Little, 2012). I conducted a comparative case study of three schools, using a nested design in which I consider individual teachers' responses within their school context. A qualitative case study approach is well suited for examining complex social phenomena (Yin, 2009). Although their experiences are not generalizable, close examination of teachers' experiences has the potential to contribute to theory about how teachers learn about standards.

This study examines how experienced teachers who work in stable organizations respond to rigorous, new standards. At each of these schools almost all teachers were highly experienced, most teachers were people of color, and all principals were people of color who had been in their position 10 or more years. Teachers participating in the study had from two to more than 25 years of teaching experience; half had more than 15 years of experience, and most had taught at the same school for more than 10 years.

I used purposive sampling (Seidman, 2006) to select similar schools—those with a history of success in supporting student achievement, serving comparable student populations, and committed to being early adopters of the new standards. All three schools performed the same or higher, on average, on previous state assessments than schools in the district with similar student populations; thus, they may be more likely to meet the goals of the CCSS. Nevertheless, meeting the high expectations set by the CCSS presented a major challenge to teachers in these schools since about half of students in each school failed to meet previous state standards in mathematics and ELAR, as

measured by the state assessment (see Table 1). More than 95% of students at each school were Black or Latino and more than 80% of students received free or reduced-price lunch. Today 20% of elementary students attend high-poverty schools where at least 75% of students are low-income (Aud et al., 2010). Growing gaps in achievement and college attainment between low-income and high-income students (Bailey & Dynarski, 2011; Reardon, 2011) make the need for understanding how instructional policies can support high achievement among low-income students all the more pressing.

<b>Table 1. School Demographic and Performance Profiles</b>			
	<i>Bay Elementary</i>	<i>Park Elementary</i>	<i>Sunnyside Elementary</i>
Students	244	521	226
% Free and reduced price lunch	86%	81%	95%
% Limited English proficient	12%	6%	4%
% Special education	23%	20%	14%
% African American	57%	80%	85%
% Hispanic	39%	16%	14%
% Asian	2%	1%	0%
% White	2%	1%	1%
% Proficient ELAR 2012	31.4%	47.1%	32.8%
% Proficient Math 2012	53.7%	57.1%	56.6%
% Proficient ELAR 2013 (CCSS)	11.5%	18.3%	13.9%
% Proficient Math 2013 (CCSS)	14.8%	24.1%	12.9%
<i>Source: State Education Data 2012-2013</i>			

The district adopted the CCSS in 2010, required teachers to begin integrating the CCSS in their instruction in fall 2011, administered the first CCSS-aligned assessments in spring 2013, and adopted CCSS-aligned curriculum in fall 2013. As part of their strategy for implementing the CCSS, the district formed the Common Core Innovation Network, a network of 35 schools that volunteered to be early adopters of the standards, receive additional support, and serve as a lab for learning about this process. All three

schools volunteered to participate in the network. At the time of the study, all teachers had been teaching to the CCSS for three years. The network worked with teachers from each school to develop shared expectations for instruction and student performance through discussions of student work and collaborative development of curriculum units aligned with the CCSS. This focus on teacher collaboration reflects the theory that teachers need opportunities to learn about the CCSS with colleagues in order to develop practices and expectations for student work that align with the standards.

Teacher interviews and observations were the primary focus of data collection. In total, 26 teachers, 3 principals, and 1 assistant principal participated in the study. I conducted 36 teacher interviews, 8 principal interviews, 17 classroom observations, 9 teacher meeting observations, and 5 PD observations. I interviewed third-, fourth-, and fifth-grade teachers in each school using a semi-structured interview protocol (Seidman, 2006) to examine how they learned about and enacted the CCSS. All teachers faced pressure to teach to standards from external assessments and they taught similar content. The teachers included regular and special education teachers who worked in self-contained classes, as well as special education teachers who co-taught with regular education teachers. In addition, I interviewed principals to learn how their schools provided opportunities for teachers to learn about the CCSS.

Research suggests that opportunities for learning about policy include both formal structures for collaboration, such as team meetings and PD, and informal conversations with colleagues (Spillane, 2004). Therefore, I spent five days in each school observing formal and informal opportunities for teacher collaboration and professional learning. I also observed participating teachers' instruction to better understand how the practices

they reported employing related to the CCSS. I supplemented interviews and observations with document analysis. Most interviews were audio recorded and transcribed verbatim, detailed field notes were taken during observations, and major themes were captured in interpretive memos.

I engaged in data collection and analysis concurrently (Miles & Huberman, 1994). During initial readings of transcripts, field notes, and interpretive memos, I coded the data for teachers' opportunities to learn about standards: learning about standards-based curriculum and assessments, formal PD, collaborative team processes, and principals' support for teachers' collaboration. I included codes for the specific collaborative practices that district policy and the PD network encouraged teachers to carry out, including developing curricular units, using curricular units and tasks provided by the district, and using inquiry protocols.

In addition, I used weighted codes from 1 (not at all) to 4 (completely) to analyze the level of described and observed alignment of practice with the changes in practice recommended by the district for meeting the CCSS. The district communicated the increased level of cognitive demand emphasized in the CCSS through policy documents that highlighted the following instructional changes in ELAR and math: balancing informational and literary texts, reading and writing grounded in text evidence, building academic vocabulary, fluency with calculations, deep focus on conceptual understanding, and application of mathematical concepts to "real world" situations. I used these descriptions to code teachers' self-reported and observed practice.

I analyzed cross-case patterns, looking for themes, comparisons, and variation in how teachers reported learning about the CCSS and how their learning related to their

collaboration with colleagues (Miles & Huberman, 1994; Yin, 2009). Using Dedoose qualitative data analysis software to examine differences in how teachers described learning about standards and enacting them in practice, I observed that teachers who reported engaging in similar collaborative practices (e.g. planning instruction, looking at student work) reported and were observed enacting practices that varied greatly in the degree to which they aligned with standards. I then used matrices to develop codes inductively, examining how teachers described their collaborative practices and how this collaboration related to teachers' practice (Miles & Huberman, 1994). I engaged in an iterative coding process, revisiting original data, emergent themes, and my initial hypothesis about the relationship between collaborative practices and teacher understanding and enactment of the CCSS. This process surfaced differences in how teachers approached their collaborative work. For example, while some teachers focused primarily on what topics to teach and resources to use, others focused on what to teach and then considered how to teach in ways that would support students in meeting the new standards.

I sought to reduce the risk of systematic bias and enhance the validity of my findings by drawing on multiple data sources and collection methods (Maxwell, 2012) to understand how teachers come to understand and enact the CCSS. I collected data from teachers and principals to analyze teachers' experiences with the CCSS and the context in which they occur from multiple perspectives. I used multiple data collection methods, including interviews, observations and document analysis to understand teachers' experiences. In addition, I constantly evaluated my findings against rival explanations as I analyzed the data (Yin, 2009).

## **District Policies as Supports for Teacher Learning about the Common Core**

District expectations for teachers' work with their colleagues, professional learning opportunities, and the adoption of new curricula and assessments were all designed to support teachers' learning and enactment of the CCSS. The district's instructional expectations stated that collaboration in teacher teams was a central process for teachers to learn about the new standards. On these teams, they would: 1) analyze student work to adjust teaching practice and instructional planning; 2) plan CCSS-aligned curricular units; 3) plan for changes in instruction based on the CCSS; and 4) adjust lessons, units, and classroom assessments to address the gap between what the new standards require and what their students know and are able to do. Each of these actions required teachers to work collectively to determine what it would take to support students in meeting standards. In this way, the district framed the challenge of teaching to the CCSS as a challenge for teacher learning that required the collective effort of teacher teams.

As part of their efforts to foster continuous improvement in schools, the district had supported teacher teams in engaging in collaborative inquiry for the five years prior to the beginning of the study. The district's inquiry team process called for teachers to work with colleagues to analyze student and teacher work, identify a learning challenge, select a research-based instructional approach to address this challenge, implement the approach, and evaluate its success. This process encouraged teacher teams to question their assumptions about instruction and student learning and engage in shared decision making about instruction. All three schools included in this study had basic structures and processes in place to support the work of teacher teams, including weekly meeting time, a

team leader on every grade-level team, student assessment data available to inform instruction, and training in inquiry team practices.

When the district began requiring teachers to incorporate the CCSS into their instruction in 2011, they continued their focus on teams as a structure for professional learning. Professional learning opportunities offered by the district focused on learning about the standards, working with colleagues to develop curricular units to meet standards, learning specific instructional approaches (e.g. higher-level questioning, differentiation) to support students in meeting new standards, and engaging in inquiry work. The Common Core Innovation Network complemented these efforts by supporting teachers in working with colleagues to develop curricular units and assess their instructional plans and their students' work against the new standards. During network PD sessions, teachers used protocols to assess the degree to which their instructional plans and students' work met standards. They were encouraged to take back and use these protocols with their grade-level colleagues.

According to district documents, teachers were expected to continue developing curricular units when the district adopted new curriculum options for schools that were aligned with the CCSS. However, most teachers in the study described developing curricular units out of necessity because they lacked curricular materials aligned with the new standards. When the schools adopted curricular materials, only the teachers at Bay and four teachers at Park continued to develop and teach curricular units they had designed to meet the CCSS. These teachers described the process of developing units with colleagues as an opportunity for learning about standards and how to meet them. In the following sections I describe the differences in the nature of teachers' collaborative

work across and within schools and the implications of these differences for teachers' instructional practice.

### **Teachers' Collective Learning about the Common Core**

As teachers made sense of the CCSS, they turned to their colleagues for resources, expertise, and partnership in inquiry. Despite a long history of teacher isolation (Lortie, 1975), opportunities for teacher collaboration have become prevalent in schools since the introduction of standards-based accountability policies (Earl & Timperley, 2009; Wei, Darling-Hammond, & Adamson, 2010). All teachers in the study worked regularly with their grade-level team around instruction and student learning. On the surface, these teachers all engaged in similar collaborative work. They planned curricular units, shared resources and instructional approaches, and used assessments to monitor student learning. However, the degree to which their collaborative practices supported their understanding of the CCSS and influenced their instructional practice varied greatly.

Most teachers shared instructional ideas and resources with colleagues in ways that made their practice public. Yet they still protected their individual autonomy over instruction and limited the influence of their colleagues. All teachers at Bay Elementary and a small group of teachers at Park Elementary, however, engaged in what I call *joint inquiry*, working with colleagues to investigate their instruction and students' work and determine the changes they would need to make to support students in meeting standards. These collegial interactions combined the collective action described by Little (1990) as "joint work" with an orientation towards improving instructional practice. In the sections that follow, I analyze the content of teachers' collaborative practices to better understand the nature of teachers' collaboration and its implications for teachers' learning about and



enactment of policy. I describe the conditions and collaborative processes that supported teachers in learning about and enacting standards in three high-poverty schools: Bay, Park, and Sunnyside Elementary.

### **Bay Elementary School**

Teachers at Bay Elementary School described seeing the new standards as similar to their current practice initially; however, they reported that engaging with colleagues in close analysis of curriculum, instruction, and student work led them to view the new standards as requiring, as one said, “a really different way of teaching.” All teachers described analyzing curricular resources, instructional plans, and student work to learn how to teach to standards. The principal promoted this focus on working collaboratively. A teacher explained that the principal expected them to “work collaboratively to make the school better.” Teachers described engaging in four key collaborative practices that supported them in learning how to assist their students in meeting standards: analyzing curricular resources, revising instructional plans, soliciting feedback from colleagues, and engaging in inquiry team protocols. Collaborative practices at Bay encouraged teachers to improve their practice to better support students in meeting standards by encouraging ongoing analysis, feedback, and revisions of instructional practice.

Conditions at Bay Elementary supported all teachers in engaging in joint inquiry about instruction and student learning with their grade-level teams. Teachers described collaboration among colleagues as central to their learning about standards and described the principal as the “driving force” behind this emphasis on collaboration. All teachers in the district had been trained to engage in specific inquiry team protocols to address a problem of practice. As I describe in greater detail in Stosich (2015), the principal at Bay

made inquiry work a priority by sitting in on inquiry team meetings, using whole-faculty meetings for teams to engage in the inquiry team process, and providing time for feedback on each grade-level team's inquiry work during team leader meetings. For example, during a third-grade team meeting, the team leader shared feedback that she had received on the focus question of their inquiry work from the administrators and lead teachers in the school. The team's focus question asked whether they saw evidence of growth in essay structure in students' writing. The feedback suggested that their focus question should probe into specific challenges that students faced in writing and how to address them. This feedback influenced the questions the team used to investigate how to improve students' writing.

The meaning of the new standards became clearer through teachers' collaborative engagement with curriculum. Five teachers reported that having models—model curricular units, student work based on these curricular materials, and observing teachers demonstrate the use of curricular materials—helped them understand the changes they needed to make in their practice to meet the CCSS. A teacher explained that when the curricular units were “explained and student work was shown,” she and her colleagues “had an idea of what the standard would be.” Another teacher said that the CCSS-aligned curriculum together with observations of an outside expert modeling how to use the curriculum was helpful for learning how to teach to the new math standards. I observed him ask students to explain and justify their approach to solving multi-step problems and assign questions in their newly adopted math textbook that reflected the balance of procedural fluency and conceptual understanding called for in the CCSS.

The principal supported teachers in learning from models by bringing in experts to demonstrate how to use new curricular materials with students. Two teachers described the opportunity to observe models of standards-based practice with colleagues as their most meaningful opportunity for learning about the CCSS. A Bay teacher explained that she and her grade-level colleagues had looked at the new mathematics standards and thought they were “doing it right.” However, seeing an expert demonstrate how to use the new, standards-based curricular materials made her realize that she and her colleagues had to “totally revamp” the way they planned instruction.

You have to be trained and you have to reflect on yourself as a teacher.

“What do I do that’s maybe not so conducive to Common Core?” I think a lot of us, when we sat back and reflected, realized that we had it all wrong... When you saw how really deep the questions were, then you realized you have to really start planning the questioning into your lesson plan rather than just going with the flow.

According to Bay teachers, opportunities for learning from models of instruction, curriculum, and student work were especially helpful for learning about the CCSS when paired with opportunities to reflect on how these models related to their current practice with colleagues.

Teachers at Bay used standards-based curricular materials to learn how to meet standards, but they also worked with colleagues to revise these materials to more effectively support students in meeting standards. As noted previously, the principal regularly asked teacher teams to revisit and revise their curricular plans. Teachers at Bay described their curricular plans as “living documents” and said the process of revising

unit plans as one of integrating new learning from experience, PD, inquiry team work, as well as student needs into their shared instructional approach. For example, one grade-level team started using Webb's (2007) Depth of Knowledge framework to evaluate whether they were asking the high-level questions necessary for students to do the kind of thinking called for by the standards. This process aided teachers in developing a shared understanding of the instruction necessary to meet the CCSS.

Teachers at Bay Elementary described developing shared curricular plans through an ongoing process. For example, three third-grade teachers described deciding to use informational videos to model how to draw conclusions from evidence and use this evidence in informational essays to prepare students for drawing conclusions from complex texts, a focus of the new standards. I observed all three teachers using this instructional approach in their classrooms. Similarly, three fifth-grade teachers described working together to design a social studies unit that required students to use evidence from videos and text to support their informational essays. During classroom observations, all three teachers asked questions and assigned tasks that required students to interpret evidence from videos and develop written arguments based on this evidence. A fifth-grade teacher emphasized, "One teacher is not allowed to do it...Everything is collaborative to meet the needs of the students." This process reflected the sense of mutual accountability (Katzenbach & Smith, 1993), or shared responsibility, for the work of the team described by all teachers at Bay. Teachers described agreeing as a team to stick with using resources or approaches that they had tried out and found to be effective.

When teachers worked with colleagues to revise curriculum, they asked questions about the goals of curriculum and compared them with the goals of

standards. These teachers asked, “What do we want them to get out of the curriculum?” and “How can we get them there?” For example, a teacher said that the curriculum had students write their own informational book, but she had found that her students were not prepared to meet the standards for writing informational essays after this experience. She shared her students’ work with her colleagues in order to investigate what it would take to support students in meeting the writing standards as part of their inquiry team work.

I brought my work to the [table]. We sat. We did an inquiry about--What are [students] doing? How much work do we need to really get to where we need to go? We actually evaluate each other’s students. We just come with our students’ [essays]...We look at each other’s work. And then we say, “This is what we need to work on, just getting the introduction.” We might do another cycle of writing an essay. Then we come back the following week and we say, “We still need to work on it.” Half way through, we realize—okay—we’re not going to worry about the book. We’re just going to try to [have students write]...maybe 2 or 3 more essays because that’s where we really need to focus. That’s what the students need.

Inquiry team protocols called for teachers to come together to examine student work, try out an instructional approach, and circle back to revise their instructional approach based on their analysis of students’ work. Using these protocols, these teachers seemed to develop an understanding of the work they would need to do to support students in meeting standards. In this case, for example, they found that their students made more progress towards meeting writing standards when they had many opportunities to write

informational essays with direct support on different aspects of writing (e.g. introductions) rather than writing an informational book, as called for in the curriculum. Teachers reported that this understanding evolved over time as they worked with new curricular resources or reflected on learning from PD. Teachers at Bay credited the inquiry team and curriculum revision processes with supporting their understanding of how curricular materials could be used to best promote student learning.

All teachers said that protocols for examining instruction and student learning, including those related to inquiry team work, were helpful for learning how to teach to the new standards. For example, two teachers described using a fishbowl protocol for getting constructive criticism from their colleagues on lessons they designed to meet the CCSS as a meaningful learning experience that occurred during a whole-school meeting. One teacher described this experience:

We had a fishbowl where we all just had to say something positive, and then we'd have to say something negative. So you have to hear it all. There were some tears, but we learned from it. That was the intention, for us to do better and to improve our craft. I think it helped. It really did.

The use of this fishbowl protocol for observing and giving feedback on colleagues' instruction was made possible by the principal, who created opportunities for learning from colleagues during whole-faculty meetings.

Importantly, collaboration at Bay was influenced by the efforts of the principal to make ongoing improvement a priority, but also by the level of knowledge and skill of the faculty as a whole. As teachers at Bay analyzed curricular resources, revised instructional plans, solicited feedback from colleagues, and engaged in inquiry team protocols they

relied on the knowledge of and skills of their colleagues to improve their instructional practice. All teachers at Bay described the feedback of their colleagues as an important and useful resource for learning to teach to the new standards. In schools with teachers with lower levels of instructional capacity, feedback from colleagues may be viewed as less valuable for improving instruction, which would limit the usefulness of joint inquiry.

### **Park Elementary School**

Deciding to engage in collaboration with colleagues seemed to be left to individuals at Park Elementary School. Four fourth-grade teachers worked together to analyze standards-based curricular materials, develop curricular units that would meet these standards, and engage in inquiry team work. These teachers credited their strong, personal relationships for supporting their shared commitment to team learning. In contrast, the 8 other teachers interviewed at Park described consulting colleagues to determine what topics and resources to use during instruction, rather than how to teach to the new standards. This group included one fourth-grade teacher who reported that his negative personal relationships with colleagues left him working mostly in isolation. A teacher on the team said that they would “let him know” what they were teaching, but they did not plan curricular units or engage in inquiry work with this colleague. His colleagues may have excluded him from their joint work due to his low level of teaching skill. Although his colleagues did not describe him as incompetent, he was concerned about receiving an unsatisfactory performance rating from the principal. He explained,

I'm not going to be able to write the lesson plan effective enough for what [the administrators] expect. I don't want them to give me a U rating...We should be exposed to [information about new instructional approaches] from another

colleague. I think it's unfair that I'm struggling. I have to run around asking [colleagues] instead of being told.

In contrast to Bay, decisions about how teachers chose to work together and whether they followed through with the decisions made by the team were left to the discretion of individual teachers, leaving some teachers to fend for themselves.

The principal at Park described his strategy for meeting the new standards as “forming teacher teams at every grade level and building...a community of learners. Inquiry process at every level.” According to the principal, one challenge for teacher collaboration was that meeting with colleagues more than once a month was “voluntary,” according to the union’s contract. However, he encouraged teachers to meet weekly and many did. In fact, the four fourth-grade teachers described meeting almost daily.

The principal at Park held all teachers accountable for following through with district policies, including working in grade-level teams to develop curricular units that aligned with the CCSS and using standards-based curriculum in instruction. All teachers at Park described developing curricular units aligned with the CCSS and student work from these units was displayed on teachers’ bulletin boards. However, the principal reportedly had little direct influence on how teachers approached this work. A fourth grade teacher explained that the “administrators were there to push” unit planning. Teachers would “do the work, but they were not really doing it as they should.” According to this teacher, the way in which some teachers were working together to develop curriculum units limited the value of this collaborative process.

Teachers who worked more superficially with their colleagues also wrote curricular units, or at least developed common goals and some activities as part of a unit,



but many described this as a difficult task of little value and stopped creating units once the principal no longer required it. For example, the third grade team's unit plan about mystery literature in ELAR included a list of the standards students would meet and broad objectives about making predictions and identifying the elements of a mystery. However, it lacked any description of the lessons teachers would carry out, the texts students would read, or the tasks students would complete. This unit plan revealed the limited effort put into creating unit plans by many teachers but also reflected the limited knowledge and experience of Park teachers with unit planning. On the other hand, the four fourth grade teachers described working together to plan detailed curricular units. These four teachers described analyzing curricular materials, developing curricular units, and engaging in inquiry work as experiences that changed their instruction and, in many cases, their fundamental beliefs about what they and their students could do.

### ***Working with colleagues to investigate how to meet standards***

The four fourth grade teachers at Park made collaborative learning a priority for their team by investigating how they could use standards-based curricular resources, evaluating their instructional plans against standards, and using inquiry-oriented protocols to address student challenges in meeting the CCSS. One said, that working with her colleagues made them less “fearful” of experimenting with new, standards-based curricular materials. When teachers view messages about reform as being too difficult for their students, they are likely to reject or ignore these messages (Coburn, 2001). Team norms of experimentation and mutual responsibility appeared to support these teachers in trying out and persisting with standards-based curricular units, even when they initially viewed them as inappropriate for their students. These teachers all described viewing the

unit as too difficult for their students initially, but they agreed to try it and then worked together to adapt it to their school context.

These four teachers reported that witnessing the success of their students in doing work that they had not thought possible changed their beliefs about what they and their students could do. A special education teacher on the team described how her beliefs changed:

We did a [curriculum unit] last year on child labor that was based on the Common Core...The students had to look at political cartoons. They had to read articles. My first thought was, “This is way too hard for my students.” But [our grade-level team] spent months on it. We just picked apart every article...We used graphic organizers. Then [my students] were able to meet those Common Core Standards of writing opinion pieces using evidence from the articles. I was very shocked at how well my students did. I feel like the Common Core holds you to these high standards and these high expectations. You'd be surprised what you can do and what your students can do if you stick to these standards.

This example illustrates the intense collaborative work—months determining how to support students in comprehending specific texts—that went into learning how to support all students in meeting the ambitious new standards. This process assisted teachers in enacting practices related to two core elements of the CCSS: reading complex texts and using text evidence.

Another teacher on the team explained, “Learning how to scaffold, learning how to break things down and ask these questions of the students as they’re reading to get

them to understand it, all of that came from the child labor unit.” Through their collaborative analysis, adaptation, and development of curriculum, teachers were better able to understand the actions they could take to teach to standards. This learning appeared to transfer to the development of other curricular units and their instructional practice more broadly. For example, two teachers displayed student work from a recent unit the team had created on the pros and cons of homework. Students had read multiple articles on the topic and used evidence from the articles to support their views, a focus of the CCSS in ELAR. Similarly, a third teacher asked students to infer what a fictional character’s actions revealed about his feelings and regularly prompted students to go back to the text to identify evidence to support their responses. All four teachers reported that they were committed to continuing to support students with the higher level learning called for by the new standards because they had witnessed the impact of their efforts in their students’ daily work and on the state test. The fourth grade students had outperformed, on average, the other grade levels in the school and schools in the district, despite serving a higher proportion of students living in poverty than most other schools.

Like the teachers at Bay, the fourth-grade teachers at Park used protocols from the district’s inquiry team initiative and the Common Core Innovation Network to support them in analyzing whether their instructional plans and the work of their students met the expectations of the new standards. For example, they had participated in network PD on text complexity and used protocols to determine whether the texts they had selected were complex enough for students to meet standards. Protocols from the network focused the teachers’ attention on the gap between their own instructional plans and their students’ work and the expectations of the CCSS. For example, one protocol asked them to

consider the following questions when reviewing students' work: 1) To what degree does the student work present evidence of meeting the CCSS? 2) Does the task provide the opportunity for students to present evidence of meeting the CCSS? If not, what improvements need to be made? 3) What pedagogical strategies can a teacher (or teacher team) employ to address the gaps between current student performance and the performance required by the task/CCSS? Through systematic discussions of instructional plans and student work, teachers developed shared expectations for student work and determined instructional practices for promoting student mastery of the new standards.

Although teachers believed that meeting the CCSS presented a major challenge, they viewed the assistance of their colleagues as essential for responding to this challenge. For example, one teacher described using a protocol for analyzing student work in an effort to get ideas from her team about how to address a student's challenge with academic vocabulary.

When we work together, we're able to look at students' work together...A case that we had last meeting, I had a student who was struggling with some vocabulary words, and I pulled the Tuning Protocol where I spoke first and explained the situation. Then my colleagues were able to ask me clarifying questions about the student...They were able to give me some feedback about what I should try out with the student to see how that would help whatever issues he was having. After I try those out, I come back to the team and say, "This worked and that didn't work." Then we take notes on that, and they can make more suggestions and so on and so forth...You feel like you're not alone.

The protocol assisted her and her colleagues in analyzing the student's challenge with vocabulary, determining an instructional approach, and following up as a team to see if the approach was effective.

With the support of useful protocols and their shared commitment to their colleagues, these four teachers worked together to improve their instruction and students' learning by analyzing and adapting standards-based curricular materials, developing curricular units that would meet these standards, and engaging in inquiry team work. However, the changing focus at the school site and the principal's limited attention to team work seemed to make sustaining their work difficult. When the school adopted new curricula and stopped requiring teachers to plan curricular units, these teachers continued to design their own units because they viewed them as important for meeting the new standards; nevertheless, some of their hard work seemed to get lost in the shuffle of the shifting priorities. For example, the teachers described changing their beliefs about what they and their students could accomplish after teaching the unit on child labor. However, they did not teach the unit the following year. This indicates that teachers who engage in collaborative efforts to design standards-based curriculum in schools with weak supports for this work may find it difficult to sustain and build on their learning over time.

### ***Working together to determine what to teach***

Most teachers at Park Elementary characterized the challenge of supporting students in meeting the new standards as one that could be met without substantially altering their existing beliefs or practice. In the words of one teacher, "It's really not that different from what we were already doing. It's just another name." Almost all teachers at the school said that teaching to the new standards was a challenge of figuring out what to

teach. Teachers reported matching lessons they had taught previously to the new standards, relying on standards-based curriculum, or using the internet to seek out resources, such as worksheets, that were labeled as CCSS-aligned. However, examination of the classroom activities and worksheets revealed that they reinforced routine practice of basic skills rather than the more cognitively demanding shifts of the CCSS. Although the four fourth-grade teachers worked to closely examine some curricular resources, they did not use this intensive process with all materials. Nevertheless, their efforts to improve their instructional plans, their use of curricula, and the performance of their students set the four fourth-grade teachers apart from other teachers who were interviewed. For most teachers in the school, their work with colleagues focused exclusively on what to teach rather than how to teach.

Teachers looked to curriculum described as aligned to the CCSS and questions that mirrored those in standards-based assessments as they planned instruction. Teachers explained that they had little PD preparing them to use the new curriculum, but they did not view this as a problem. As one teacher explained, “They just gave us the program. This is it. Just open it up. Read it on your own, and try to figure it out on your own... It’s pretty self-explanatory, I think.”

Classroom observations revealed that these teachers often used the curriculum in ways that failed to meet the goal of these standards. For example, they often broke down multiple-step problems for students, neglected to ask questions requiring students to explain their answers, broke down text into small chunks, focused on lower-level recall questions about text, and asked questions that required information about students’ personal experience rather than text evidence. At times, teachers appeared to ignore

aspects of curriculum that conflicted with their existing beliefs about instruction. For example, one teacher said the CCSS-aligned math curriculum was “not really different” from her existing practice. However, she broke down complex problems into discrete steps during a classroom observation, reducing the challenge of the task. In addition, she failed to ask questions in the textbook that required students to explain their thinking, which was part of the focus on conceptual understanding in the CCSS. In this way, she used the curriculum in ways that conflicted with the principles behind the standards.

Decisions about how to use curricular materials or apply learning from PD were left to individual teachers. For example, almost all teachers described learning about higher-level questioning in PD and attempting to integrate this learning into their instructional practice, but these attempts appeared to be uneven and superficial. One teacher described her use of higher-level questioning techniques, “Pretty much I just tried to use it when I can.” These teachers reported having limited opportunities to try out and reflect on approaches learned in PD.

When teachers did enact practices learned in PD, they described doing so in ways that conformed to their existing beliefs about what was appropriate for students. For example, three teachers described learning about techniques for higher-level questioning and choosing complex texts, but believed these approaches were inappropriate for students they all described as “low functioning.” Thus, instructional approaches designed to increase the level of learning for all students were implemented in ways that contradicted policy goals.

Teachers described the process of planning instruction that would cover all the standards as being difficult because of the sheer number of new standards. Four third-

grade teachers all described starting with a lesson they wanted to teach and then “plugging in” or “matching” the new standards to their lesson objectives rather than rethinking how they taught. Thus, at Park, instructional planning was viewed through the lens of existing practice and beliefs. A teacher described their planning process:

The Common Core, the way it’s laid out—we know what to do, what topics we must cover for the entire school year. So we break down the topics according to months for the ten months...It's not really how they teach. We can make our [own lesson] plans, and your teaching style may be different from mine when you get to your room...It’s what to teach. It’s not how.

This description highlights how teachers maintained norms of autonomy by focusing on what to teach rather than how to teach. Teachers at Park all described their colleagues as being willing to share ideas and materials. This openness to sharing can encourage the open exchange of ideas but also maintains teachers’ autonomy (Little, 1990).

One third-grade teacher noted that individuals do not necessarily teach the topics they have chosen with their colleagues. She described what she learned after participating in classroom observations at the school:

Even though teachers plan on grade, they don't normally teach what they are asked to teach. Even though this month might be mystery month for grade 3, you can still walk into a teachers' room and the teacher is teaching a fable.



The superficial nature of collaboration—focused on what topics to teach and resources to use—seemed to foster little accountability to peers for following through with team decisions.

### **Sunnyside Elementary School**

Like most teachers at Park, teachers at Sunnyside Elementary School viewed teaching to the CCSS primarily as a challenge of figuring out what topics and resources to use in instruction. Teachers went to their colleagues, the data specialist, and administrators for resources. Unlike Bay and Park, teachers and administrators at Sunnyside did not describe collaboration among colleagues as a central aspect of their strategy for meeting the expectations of the new standards. Grade-level teams were scheduled to meet weekly, but these meetings were often cancelled or ended early. Using data to improve student performance on standards-based assessments was a major focus in the school. The principal encouraged regular assessment of students and grouping them based on their performance, but did not call for using particular collaborative processes to make changes in practice. Instead, teachers' conversations with colleagues focused on choosing topics or finding curricular resources, particularly those that prepared students for state tests.

In every classroom, teachers had data boards with student scores from assessments, including reading levels and scores from assessments in ELAR, math, social studies and science. As one teacher explained, “students know that it’s assessment Friday.” Every Friday teachers assessed students and used their scores to change student grouping during instruction. The school even had one teacher who acted as a “data specialist” and facilitated all grade-level team meetings. Interviews and observations of

teacher team meetings revealed that the data specialist provided information about student assessment scores and test-prep resources.

Teachers and the data specialist described their work with student data as inquiry team work, but observations of grade-level team meetings revealed that they did not use inquiry team protocols. Indeed, their work called for little examination of how data related to instruction or student learning. For example, one week the data specialist reported that the grade-level meetings focused on “target groups,” students who scored in the bottom third of students in the school on the CCSS-aligned state test. During two grade-level team meetings that week, I observed the data specialist give teachers a list of students who scored in the bottom third and said that teachers were to improve their scores; however, there was no discussion of the data or how to use it to inform instruction. When a teacher asked the data specialist to help him use the new online system to find examples of the problems his students got wrong on the test, the data specialist agreed to look into this. This interaction reflected the data specialist’s role in connecting teachers with resources related to assessments.

In contrast, when a teacher expressed concern about the number of students in her and her co-teacher’s class who fell in the bottom third of students, the data specialist closed off this potential opportunity for examining the data more closely.

Teacher: Many of our students are in the bottom third.

Data specialist: Well, that’s the fourth grade, so many of your students are there.

That’s about it. If you want to look at your students’ scores from last year, on the back there is a sheet and all the students’ scores who are in the lowest one-third are there.

The data specialist's response suggests that discussing why students have scored in the bottom third or what they would need to do to raise these students' scores was beyond the focus for the grade-level meeting, which was delivering information and resources, including students' test scores and sample problems from the test.

Teachers at Sunnyside described working with colleagues to monitor student progress on teacher-created and state assessments and identifying topics to "re-teach." These teachers described revisiting lessons, re-teaching skills, or spending more time on topics that they identified as challenging for students. Each of these approaches to using data with colleagues focused on matching lessons and topics to student scores rather than examining the underlying causes for students' performance. Nevertheless, re-teaching standards with which students struggled was challenging because students' scores were very low. Teachers reported that most students scored 1 out of 4, the lowest possible score on the interim assessments designed to mirror the state's CCSS-aligned end of year assessments. Thus, teachers would need to re-teach nearly every topic if they were to simply re-teach topics that students failed to pass on the test.

Teachers at each grade-level also worked together to create and administer weekly assessments to monitor students' progress in meeting standards. However, the content of these assessments did not reflect the changes in student learning called for by the new standards. For example, a third-grade assessment included 8 items, all but one of which required simple recall of information or using single-step procedures. The test included a spelling test, dictation, and two questions about a book they had read to measure their performance in ELAR. Students were asked: How does Jessie feel about

Evan? How do you know this? The second question reflected the focus on using text evidence in support answers in ELAR although it did not explicitly call for text evidence.

Teachers also described working with colleagues to decide what they would teach from their newly adopted CCSS-based curriculum, how long they would need to teach the material, and to select additional resources to supplement the curriculum. They would work with colleagues to discuss questions about the curriculum, such as, “Do we need more time?” Two teachers described the CCSS-based curricular materials as “too much” for their students. These teachers decided to use the resources over a longer period of time than the curriculum suggested. On the other hand, these same teachers reported that the curriculum was not “enough” to prepare their students to meet the standards. As a school, they decided to purchase additional workbooks and test preparation materials. Decisions about what to teach focused on finding materials that these teachers viewed as appropriate for their students and breaking down the more ambitious curriculum that the school had adopted.

All teachers used the CCSS-based curricula adopted by the school during instruction, but some teachers were more successful than others in using them to meet the more demanding goals set by standards. For example, three third grade-teachers were observed using the same lesson from the ELAR curriculum on using text evidence to determine a character’s motivation. In one class, the two co-teachers planned to ask questions about character motivation and had written these questions on the board. However, they never asked them because their students struggled to simply recall what happened in the chapter they had read. Although these teachers described their goals for students as being aligned with those in the curriculum—learning at a higher level—they

did not seem to know how to use the curriculum to meet these goals given their students' current abilities.

In a different third-grade class, the teacher had students quickly reread the chapter then begin discussing the following prompts with others at their table: "Describe Doyle's traits, motivations, and feelings. What do these details reveal about his character?" As students discussed the character, the teacher walked around the room asking students to explain their ideas and prompting them to look back at the text. She asked, "Why is he angry?" Then she prompted students to look in the text where it described him as angry. With some support from their teacher, students in this class learned how to use text evidence to develop arguments about the character. The questions and text from the curriculum and the questioning of the teacher in this class reinforced the goal of using text evidence, a central focus of the new standards in ELAR. Yet this teacher was the only one who I observed engaging in practices that reflected the ambitious goals of the CCSS. During classroom observations, all six other teachers asked questions or assigned tasks that required almost exclusively low-level recall of information, such as defining terms from the textbook, answering questions based on personal experience, or executing simple arithmetic procedures.

At Sunnyside, teachers shared openly about the topics they would choose, the resources they would use, and the performance of their students on assessments. They shared this information by coming together to plan and posting their instructional plans and student assessment scores on bulletin boards inside and outside of their classrooms. Although their instructional plans and student outcomes were public, their specific instructional practices remained private. The privacy surrounding teachers' instructional

approaches protected teachers' practice from scrutiny but also appeared to prevent the spread of effective approaches for teaching to the new standards among colleagues.

### **From Sharing to Joint Inquiry: Differences in Approach and Influence**

Similar to previous research, I find that teachers' initial reaction to the new standards was to view them as similar to current practice. However, when teachers worked with colleagues to investigate how their instructional practice and students' work related to the new standards, they described noticing that the goals of the CCSS were well beyond their current practice. Recognizing this, in turn, seemed to encourage teachers to begin closing this gap through examination of and experimentation with new standards-based curricular resources and approaches. Building on prior research, I find that teachers were more likely to revise their instructional practice in ways that reflected the goals of standards when their collaborative work was focused on designing, adapting, and improving specific instructional plans, curricular resources, and students' work rather than superficial discussions of practice (e.g. Gallimore et al., 2009; Timperley, 2009).

All teachers at Bay and the four fourth-grade teachers at Park approached their work together as joint inquiry, a shared investigation of what it would take to support students in meeting standards. Joint inquiry involved not only a shared responsibility for instruction and a commitment to collective action but also an orientation towards improvement. This approach to collaboration as joint inquiry extended beyond the use of the district's inquiry team protocols to include how teachers analyzed curricular resources, instructional approaches, students' work, and their own practice. The four fourth-grade teachers at Park Elementary analyzed standards-based curricular materials, developed curricular units, and engaged in inquiry team protocols. Teachers at Bay

Elementary engaged in all these same collaborative practices and also conducted ongoing revisions of curricular plans and observed and critiqued each other's practice. All of these collaborative practices supported teachers in analyzing and adapting instruction to better meet the goals of the new standards. During classroom observations, these teachers asked questions and assigned tasks that required students to use evidence from non-fiction and fiction texts and videos to support their ideas orally and in writing, build procedural fluency in mathematics, and justify their mathematical reasoning.

The support of their principals and the instructional knowledge and skills of their colleagues acted as enabling conditions for joint inquiry. Principals can influence whether and how teams collaborate (Stosich, 2015). The principal at Bay provided explicit direction for how teachers were expected to collaborate and this direction encouraged teachers to engage in a cycle of ongoing revisions to improve instructional plans. The principal set the agenda for team and faculty meetings and used these meetings as opportunities to improve practice through revising curricular plans, inquiry team work, and peer observation and feedback. The principal at Park encouraged and publicly recognized teachers for their collaborative work. However, he did not provide direction for how teachers worked with colleagues. In addition, the shifting focus at the school from year to year made it difficult for teachers to build on their work over time. Without explicit attention to teachers' collaborative work from the principal, joint inquiry may occur in small pockets of volunteers but is unlikely to become widespread.

Nevertheless, joint inquiry in teams is not something that can be mandated by principals because it requires a collective commitment to action among teachers. Teachers are unlikely to choose to collaborate with colleagues whom they view as

unknowledgeable about instruction. For example, one fourth-grade teacher at Park described himself as “struggling” to teach to standards and said he was excluded from his team’s collective work. Additionally, teachers may avoid collaborating with colleagues around academic content about which they are less knowledgeable. Although some teachers worked with colleagues to develop and adapt curricular units in ELAR, no teachers in the study described engaging in this deep collaborative work in mathematics. High-poverty schools typically employ higher proportions of teachers with limited experience (Loeb & Reininger, 2004) and weak levels of mathematical knowledge for teaching (Hill & Lubienski, 2007) than schools serving more affluent students. Thus, efforts to enhance teachers’ instructional capacity, particularly in mathematics, may be necessary for joint inquiry to flourish in high-poverty schools.

For teachers who did not engage in joint inquiry, teaching to the new standards seemed, in the words of one teacher, “pretty straight forward.” They believed that if they incorporated the standards into their lesson plans, used standards-based curriculum, and re-taught topics that students had failed to master on standards-based assessments, they were teaching to the new standards. In reality, however, their instructional practice failed to meet the more ambitious expectations of the CCSS. For most teachers in the study, collaborative work focused on determining what to teach—selecting topics and sharing resources—rather than investigating what it would take for their students to be successful in mastering new concepts or learning from complex texts. This approach to collaboration protected teachers’ practice from scrutiny and, consequently, led to limited changes to instruction.



Although there has been great enthusiasm behind the push for greater teacher collaboration, research on teachers' collaborative work often reveals little impact of this work on practice (see for example Gallucci, 2003; Little, 1990). I find that most teachers worked with their colleagues to share information about the topics and resources they would use in instruction rather than evaluating their own practice or the work of their students against standards. This norm of sharing allowed individual teachers to choose the resources and approaches they would integrate into their classroom practice, protecting their instructional autonomy. When teachers adopt new practices and resources without engaging in systematic inquiry into the effectiveness of the new approach, it is unlikely that teachers will experience the success that might change their beliefs about practice (Spillane et al., 2006). Instead, teachers who engaged in more superficial collaboration with colleagues adopted new practices and resources in ways that reinforced rather than challenged their existing beliefs about what was appropriate for their low-income students. They were observed and described simplifying complex problems, assigning tasks that required merely recall of information, and matching low-level questions and texts to low performing students. In contrast, teachers who engaged in joint inquiry approached standards-based curriculum, assessments, and PD as opportunities to learn how to meet the new standards and, through this process, changed their instructional beliefs and practices.

### **Implications for Research, Policy and Practice**

The CCSS were designed to prepare all students for college and career by raising standards for student learning, beginning in the elementary grades. This major shift in expectations for student learning demands a comparable shift in

instruction. However, two decades of research on standards reform have taught us that teachers are likely to view standards as similar to their current practice (Cohen, 1990; Spillane et al., 2006) or adopt those aspects of standards that conform to existing practice and beliefs (Coburn, 2001; Spillane, 2004), leading to minimal changes in instruction and, ultimately, student learning. Scholars argue that past standards failed to bring about meaningful improvements in instruction and student learning because teachers lacked the extensive learning opportunities necessary for understanding the principles behind standards and their implications for instructional practice (Cohen & Hill, 2001; Spillane, 2004). My findings suggest that engaging in joint inquiry can support teachers in both noticing the gap between standards and their current practice and using curriculum, assessments, and professional learning opportunities to begin to bridge this gap.

As teachers made sense of standards, they turned to their colleagues for resources, assistance in instructional planning, and as partners in inquiry. All teachers at Bay and four fourth-grade teachers at Park Elementary described engaging in collaborative practices that focused on joint inquiry: a shared commitment to examine and improve their instructional practice, curricular plans, and students' work. These teachers worked with colleagues to analyze and improve standards-based curricular materials, develop and revise curricular units, engage in inquiry team protocols, and observe and critique their colleagues' instructional practice. This improvement-oriented approach to collaboration appeared to support teachers in learning how to support their students in meeting the lofty expectations of the CCSS. These teachers prompted students to draw

inferences from complex fiction and non-fiction texts, use text and video evidence to support their ideas in informational and argumentative essays, and explain their mathematical thinking. In contrast, most teachers worked with colleagues to identify resources and consider questions of what to teach rather than interrogating their own instructional practice. These teachers reported teaching to the new standards; however, observations of their practice revealed that they used curriculum and instructional approaches in ways that conflicted with the principles behind the standards. Without working with colleagues to critically evaluate their practice against the expectations of standards, teachers are likely to enact practices that reinforce their beliefs about the abilities of their low-income students and are constrained by their existing instructional knowledge and skills.

These findings raise questions about how we can foster collective commitments among teachers to transform instructional practice to meet new standards. The CCSS set the bar for student learning, but call for teachers to exercise “professional judgment” in determining how to meet these standards (CCSI, 2010, p. 4). Efforts to foster meaningful teacher learning through joint inquiry require a collective approach to exercising professional discretion. A true profession is marked by specialized knowledge and expertise, shared standards of practice, and a commitment to continuous improvement (Hargreaves & Fullan, 2012). The collaborative practices of the teachers at Bay and the four fourth-grade teachers at Park reflected this conception of professional autonomy as a collective commitment to shared knowledge, standards of practice, and ongoing improvement. These teachers said that they chose to make collective decisions

about instructional practice based on close collaboration with colleagues because of their sense of commitment to colleagues, the value they placed on the input of their colleagues, and the improvements they witnessed in their instructional practice and students' work as a result of their efforts. Thus, teachers' commitment to a collective approach to meeting standards depends on whether they view their collaborative work as truly valuable for improving their practice and students' learning.

Schools and districts can foster meaningful learning about standards among teachers by making substantial investments in teachers' collaborative practices, instructional capacity, and the ability of principals to lead collective learning. Researchers have typically explored whether engaging in particular protocols for collaborating with colleagues around instruction leads to improved teacher knowledge and practice (Earl & Timperley, 2009; Gallimore et al., 2009). Although protocols served as useful guides for collaboration, my findings suggest that joint inquiry does not require particular protocols. Collaboration in teacher teams influences teachers' beliefs and practices related to standards when they focus on analyzing specific curriculum, instructional practice, or student work against standards and make a collective commitment to improvement. Further research is needed to understand whether this approach to teacher collaboration as joint inquiry could become more widespread with targeted professional development.

Corresponding investments in teachers' instructional capacity and principals' leadership may be necessary for meaningful collaboration around

standards. Teachers may be reluctant to seek instructional advice from colleagues with limited instructional capacity and unlikely to collaborate around content about which they are less knowledgeable. Future research can explore whether efforts to support collaborative learning around standards are more successful when paired with explicit training in pedagogical content knowledge. As states adopt new standards, including the Next Generation Science Standards, researchers may identify additional areas of weak instructional capacity for intervention.

Principals play an important role in fostering job-embedded opportunities for teachers' learning about collaborative practices and pedagogical content knowledge. Given the important role of principals in setting the direction for teacher collaboration, districts should provide training and support for principals in leading the work of teacher teams. Further research is needed to better understand the specific actions leaders can take to foster the deep learning about standards.

The work of the teachers at Bay and Park Elementary presents a promising vision for the ambitious teaching and learning that can take place in high-poverty urban schools when teachers engage in joint inquiry around specific curricular resources, instructional plans, and student work. These teachers supported their students in becoming the "self-directed learners" envisioned by the developers of the new standards (CCSI, 2010); their students were learning from complex texts, using evidence from text to support their arguments, solving multiple-step mathematical problems, and explaining their reasoning with limited support from

teachers. At the same time, findings from this study provide additional evidence that the success of ambitious instructional policies depends on the degree to which schools and districts foster meaningful teacher learning (Cohen & Barnes, 1993; Cohen & Hill, 2001; Elmore, 2004). This district provided a promising context for teacher learning about policy. Nevertheless, the experience of these teachers reveals the need for substantial support from principals, investments in teachers' instructional capacity, and training in collaborative practices that foster shared inquiry for collaboration among teachers to influence teachers' understanding of standards and their implications for practice.

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## **Chapter 2.**

### **Leading in a Time of Ambitious Instructional Reform: Principals in High-Poverty Urban Elementary Schools Frame the Challenge of the Common Core State Standards**

#### **Introduction**

The Common Core State Standards (CCSS) raise the bar even higher than previous state standards by emphasizing more cognitively demanding expectations for K-12 students in English language arts (ELA) and mathematics and holding all students to these same high standards (Porter, McMaken, Hwant, & Yang, 2011). The CCSS present a significant challenge for principals and teachers, particularly educators in high-poverty urban schools who struggled to support their students in meeting less demanding state standards. Standards are designed to influence the technical core of schooling—teaching and learning (Elmore, 2004; Payne, 2008). However, teachers are likely to view standards as similar to their current practice (Cohen, 1990; Spillane, Reiser, & Gomez, 2006), respond only to aspects congruent with existing practice and beliefs (Coburn, 2001; Spillane, 2000), or adopt standards only superficially (Coburn, 2008). Teachers learn about instructional policy through a diverse array of factors, including standards, assessments, teacher evaluations, and principals' expectations (Cohen, 1995; Coburn, 2008). Principals play an essential role in interpreting and communicating the implications of policy for teachers' instructional practice and creating supportive conditions for teachers to learn to work in new ways (Anagnostopoulos & Rutledge, 2007; Coburn, 2005).

In this study I examine the efforts of three experienced principals in a large urban district who lead high-poverty elementary schools: Sunnyside, Bay, and Park Elementary.<sup>1</sup> These principals and their faculties chose to be early adopters of the CCSS and to receive additional professional development (PD) to aid their efforts to align instruction with the new standards. I bring together research on reform leadership and frame analysis (Goffman, 1974) to examine how principals frame the challenge presented by the CCSS as they exercise leadership and how the frames they invoke support or constrain teachers' learning and action in response to new standards. As principals interpret the problem posed by policy for their work and the work of teachers and students in their schools, they locate responsibility for this problem and authorize particular responses to the problem as part of the framing process (Benford & Snow, 2000).

Standards define goals for students but do not prescribe the actions teachers or principals should take to meet these goals (Core State Standards Initiative [CCSSI], 2010). As principals respond to policy, they communicate to teachers the meaning of the challenge presented by the new standards and their implications for practice. I seek to extend recent research on the role of framing in principals' leadership (Anagnostopoulos & Rutledge, 2007; Coburn, 2006) by exploring how principals can deliberately use framing to influence teachers' understanding of the challenge presented by the CCSS and their collective response to new standards. My findings suggest that teachers are more likely to revise their instructional practice to align with the goals of standards when principals characterize the challenge presented by new standards as one that requires new learning about instructional practice and then provide substantial support for this

learning, rather than focusing exclusively on encouraging the use of particular instructional practices or curricular resources.

### **Literature Review and Theoretical Framework: Framing in Reform Leadership**

Scholars in education and business argue that leadership entails two core functions: setting direction and exercising influence (Louis, Leithwood, Wahlstrom, & Anderson, 2010; Yukl, 2002). Given the “cellular” (Lortie, 1975) structure of schools, principals cannot have direct control over teaching and learning. Furthermore, teaching and learning is made up of many complex relationships (Cuban, 2013) that are not easily manipulated by top-down directives (Cohen & Moffitt, 2009). Instead, principals influence instruction indirectly by setting a direction for improvement and creating structures and conditions to support teachers’ learning and collaboration. Leadership is second only to teachers’ instructional practice in contributing to student performance and is particularly important when it comes to schools in challenging contexts (Leithwood, Seashore Louis, Anderson, & Wahlstrom 2004). In this article I examine three such schools, all of which were identified by the district as in need of improvement when their leaders first took on the role of principal. Reviews of three decades of research on educational leadership have identified four essential leadership practices that are associated with enhanced instructional quality and student learning: articulating clear goals for instruction, coordinating instruction and curriculum, promoting teacher learning, and fostering organizational structures and conditions for teacher collaboration (Hallinger & Heck, 1998; Louis et al., 2010; Marzano, Waters, & McNulty, 2005; Robinson, Lloyd, & Rowe, 2008). Through these actions, principals set the course and create the conditions for the professional learning necessary to meet ambitious learning



goals. I extend this research by analyzing how three principals in a large urban district engage in these four core leadership practices as they respond to the CCSS.

These essential leadership practices all serve to influence the central work of schools, teaching and learning. Cohen and Ball (1999) proposed a framework for understanding instructional capacity for producing meaningful student learning as a function of the interactions among teachers' pedagogical and content knowledge, the use of educational materials, and students' understanding, experiences, and engagement in the learning process. Burch and Spillane (2003) argue that researchers have often treated instruction as monolithic, failing to investigate differences in content, resources, and academic tasks. The way in which instructional approaches and resources are used determines how effectively they will promote student learning (Cohen, Raudenbush, & Ball, 2003). While this may seem obvious, the history of educational reform reflects a pattern of adopting ambitious instructional policies and resources while pairing them with limited support for learning about how they can be used to improve student learning (Cohen & Barnes, 1993; Elmore, 2004). Cohen and Ball (1999) argue that "teachers would need opportunities that were rooted in specific academic content, that explored and tested out well-designed curriculum materials for that content, and that offered convincing information about students' thinking and performance" to change their beliefs and instructional practice (p. 9). Principals can play an important role in fostering professional learning that is more comprehensively anchored in instruction.

The CCSS represent a substantial shift in the expectations for students and, consequently, teachers. In ELA and literacy, for example, the CCSS propose a bold vision of students as "self-directed learners," who can comprehend, learn from, and use

evidence from complex texts with limited support from teachers (CCSSI, 2010). Students in elementary school typically read less informational text than called for by the new standards (Moss, 2008; Palincsar & Duke, 2004), receive little instruction in how to comprehend these texts on their own (Taylor, Pearson, Clark, & Walpole, 2000; Carnegie Council on Advancing Adolescent Literacy, 2010), and this text is often simplified during instruction through reading aloud or frequent questioning about small segments of text. Realizing the goals of the CCSS would require teachers to shift from imparting knowledge to students and simplifying materials to designing educative experiences that prepare students to independently learn from high-level educational materials.

Research on standards reform suggests that principals play an important role in providing supports for teachers' learning about standards. Specifically, principals influence teachers' enactment of standards-based practices by communicating the importance of standards, selecting curricular resources and PD opportunities that align with standards, and creating enabling conditions for collaborative learning about standards (Coburn, 2005, 2008). When teachers have extensive opportunities to learn about standards and when those opportunities connect to practice, teachers are more likely to revise their practice to align with standards (Coburn, 2001; Cohen & Hill, 2001; Spillane, 2004). However, few schools provide these extensive opportunities for learning. Further research is needed to understand how principals can exercise leadership in ways that foster ongoing and intensive professional learning about standards.

### ***Framing in Reform Leadership***

Researchers in education (Coburn, 2005, 2006; Anagnostopoulos & Rutledge, 2007; Woulfin, 2013) and business (Edmondson, 2003, 2012; Schön, 1983) have used

frame analysis to understand and explain how leaders define the challenges they face and how they use frames to influence others in the organization. Leaders can purposefully use frames to set the direction for the focus of improvement efforts in their organization and clarify the work for which they will hold people accountable (Edmondson, 2012). In this study I analyze how principals interpret the challenge presented by the CCSS, how they organize the work of the school in response to new standards, and how teachers respond to the actions of principals. In doing so, I seek to understand not only the leadership practices that principals carry out in response to standards-based accountability policies, such as setting a vision for instruction or creating opportunities for teachers to collaborate, but also the orientation of these leadership practices. Coburn (2005) argues that it is not just the leadership practices themselves but “the nature, quality, and content of the interaction” among teachers and principals “in the course of these activities that shapes the degree to which teachers engage with policy in ways that transforms their practice or that reinforces preexisting approaches” (p. 501).

Research on educational policy and cognition emphasizes the unconscious process through which teachers (Coburn, 2001; Hill, 2001) and principals (Anagnostopoulos & Rutledge, 2007; Coburn 2005, 2006; Spillane, Reiser, & Reimer, 2002) interpret the challenge presented by instructional policies through the lens of their pre-existing knowledge and beliefs and their social interactions with colleagues. This line of research has provided evidence that principals can use framing strategically to organize a schoolwide response to policy that focuses the work of teachers on improving instruction and student learning to meet policy goals (Anagnostopoulos & Rutledge, 2007; Coburn, 2005). Rather than examining the micro-processes through which

principals and teachers come to understand the meaning of policy (Coburn 2005, 2006; Spillane et al., 2002), I focus on principals' use of framing as they carry out essential leadership practices. This approach allows me to better understand the deliberate actions principals can take to frame policy in ways that mobilize teacher learning and action.

As principals exercise leadership, they can frame the work of the organization in response to new policies as one of transforming practice to reach new levels of performance or protecting the technical core of classroom instruction from outside influence. Goldsworthy, Supovitz, and Riggan (2013) found that administrators and teachers in New York City schools that had smaller gaps between current practice and the CCSS "frame[d] the shifts [of the standards] as consequential enough to warrant thorough examination of all that they do," acknowledged that learning to teach to the standards was difficult, and recognized "teacher fear and stress...as part of the challenge" (p. 11). In contrast, these authors found that most principals characterized the challenge presented by the CCSS as one of increasing rigor and making small "tweaks" to practice but described the changes necessary to student learning as more dramatic. These principals sought to minimize disturbances to teachers' practice and reduce teachers' anxiety. Goldsworthy and associates' (2013) findings suggest important distinctions in the way principals framed the challenge of the CCSS. However, they are based on one-day visits to schools. More in-depth research is needed to understand how principals frame policy in ways that foster meaningful learning and action among teachers.

Scholars in business and public policy have characterized the principals' framing of the policy challenge in the former schools as a "learning" challenge; whereas, principals in the latter schools tried to minimize the difficulty of teaching to new

standards by framing it as a “technical” or “execution” challenge (Edmondson, 2003; Heifetz & Laurie, 1997). According to Edmondson (2012), a learning frame is appropriate for solving new problems; whereas, an execution frame is better suited for routine tasks. Edmondson (2003) found that leaders who were successful in adopting new medical technology framed implementation as an opportunity for learning how to better serve patients and viewed team members as partners in addressing challenges associated with learning something new. By contrast, leaders who were unsuccessful in adopting new technology minimized the challenge presented by learning to work in new ways by framing implementation as a performance task that required individuals to execute a procedure that they characterized as similar to their normal way of working. This mirrors the way some principals characterized the instructional changes necessary for meeting the CCSS as small “tweaks” (Goldsworthy et al., 2013).

Edmondson (2012) argues that leaders can also build opportunities for learning into the daily work of the organization by encouraging “execution-as-learning.” Execution-as-learning means doing the core work of the organization, such as instructional planning in schools, in ways that encourage ongoing reflection and innovation rather than focusing on efficiently executing prescribed processes. When principals frame the work of the organization as an opportunity for learning, they empower teachers to seek out and solve problems as they arise. In schools, teachers’ work in teams has been seen as a promising structure for job-embedded professional learning. However, teacher collaboration in teams can serve as another occasion for complying with principals’ directives rather than engaging in meaningful learning when

collaborative activities are tightly structured by principals or other outsiders and leave teachers with little authority for making decisions (Coburn, 2005; Hargreaves, 2000).

Principals who define the challenge presented by policy in terms of learning how to improve teaching and student learning in a particular content area, rather than implementing a particular instructional program or approach, create more opportunities for teachers to exercise leadership. Louis and associates (2010) found that teachers' working relationships were stronger and student achievement was higher when principals shared leadership with teachers. Examining leadership from the perspective of teachers, Johnson and associates (2014) found that teachers were more invested in schoolwide improvement efforts when they had opportunities to contribute to change rather than simply being expected to execute the instructional changes determined by the principal. Principals treat teachers as "agents" rather than "objects" of change when they engage teachers in identifying and solving problems of practice (Johnson et al., 2014, p. 8). Thus, principals who work in partnership with teachers to improve teaching and learning may be more successful in meeting the goals of ambitious instructional policies than those who rely on their positional authority to compel teachers to carry out their instructional vision.

Without deliberate framing by principals, teachers may view the challenge presented by policy as residing in the abilities of their students (Anagnostopoulos & Rutledge, 2007). Coburn (2006) found that few teachers framed the challenge presented by literacy policy as one that was located in their own instruction. Instead, teachers framed the policy problem in terms of student background or issues of organizational structure (i.e. class size). When principals use framing to locate responsibility for meeting

policy goals in changes to teachers' practice rather than the abilities of students or other factors beyond teachers' control, they may alter teachers' understanding of the challenge presented by policy and encourage a more productive response.

Case studies of principals who develop authentic and intensive opportunities for teachers' learning about policy remain scant. In this study I build on findings from research on reform leadership and frame analysis to guide my understanding of how principals respond to the challenge presented by new standards and how the response of principals influences teachers' learning and actions. Specifically, I seek to answer the following questions:

- How do principals frame the challenge presented by the CCSS for their teachers?
- How do principals organize the work of the school to mobilize action among teachers in response to these frames?
- How do teachers respond to principals' frames related to the CCSS?

## **Methods**

This study draws on data from a larger investigation of teachers' and principals' work with the CCSS in the context of ongoing district PD to assist their efforts. In this article I focus on the efforts of principals in three high-poverty schools to assist teachers in aligning their instruction with the CCSS. I seek to understand and explain how principals framed the challenge presented by the CCSS through direct messages and organizing the work of the faculty. I used a comparative case study approach (Yin, 2009) to understand how three principals use distinct frames to define the problem presented by the same instructional policy.

I purposively selected three high-poverty schools whose faculties volunteered to be early adopters of the CCSS and participate in the Common Core Innovation Network (CCIN), a PD network designed to assist their efforts to teach to the new standards. They were some of the first educators in the country to begin teaching to the CCSS and had been working to support their students in meeting these standards for three years at the time of the study. All three principals were people of color who had led their schools for 10 or more years. Teachers had from two to more than 25 years of experience, most having taught in the school for 10 or more years. Most teachers were people of color.

All three school leaders took on the position of principal when their school was identified as low-performing and in need of improvement and had led their school to improved student outcomes. Nevertheless, they described fostering high levels of learning among their low-income students as an enduring challenge on which they and their faculties were committed to making progress. In fact, only about half of students in these schools met previous state standards, as measured by state assessments (see Table 1); however, the proportion of students meeting state standards in these three schools was the same or higher, on average, than schools serving similar student populations in the district. I purposefully selected leaders with a history of success improving student learning because I predicted that these principals would be more likely to make progress in meeting the expectations set by the CCSS than those who made little headway in meeting previous standards.



<b>Table 1. School Demographic and Performance Profiles</b>			
	<i>Bay Elementary</i>	<i>Park Elementary</i>	<i>Sunnyside Elementary</i>
Principal	Janice Cooper	Edward Taylor	Layla Russo
Students	244	521	226
Free/reduced price lunch	86%	81%	95%
Limited English proficient	12%	6%	4%
Special education	23%	20%	14%
African American	57%	80%	85%
Hispanic	39%	16%	14%
Asian	2%	1%	0%
White	2%	1%	1%
Proficient ELAR 2012	31%	47%	33%
Proficient Math 2012	54%	57%	57%
Proficient ELAR 2013	12%	18%	14%
Proficient Math 2013	15%	24%	13%
<i>Source: State Education Data 2012-2013</i>			

To support comparisons across the sample schools, I selected schools that served similar student populations. At each school, more than 95% of students were Black or Latino and more than 80% of students were living in poverty. In the United States, nearly one in four children lives in poverty (DeNavas, Proctor, & Smith, 2013) and 20% of elementary students attend high-poverty schools with 75% or more students identified as low-income (Aud et al., 2010). Thus, understanding how principals can support high achievement in high-poverty schools is essential.

Data collection focused on in-depth interviews with principals and teachers and observations of faculty and teacher team meetings, PD sessions, and classroom practice. In addition, I analyzed documents related to schoolwide goals, professional development, teachers' instructional planning, and student work. Over the course of one year (2013), I interviewed and observed principals and teachers in grades 3-5 in each of these schools to understand from multiple perspectives how principals framed the challenge presented by the CCSS, including how they invoked these frames in faculty meetings, team meetings,

PD, and school documents. I focused data collection on teachers in grades 3-5 because they faced the greatest pressure to support students in meeting standards from state testing and taught similar content.

Three principals, one assistant principal, and 26 teachers participated in the study. I conducted eight principal interviews, 36 teacher interviews, nine teacher and faculty meeting observations, five PD observations, and 17 classroom observations. Most interviews were audio recorded and transcribed verbatim. I took detailed field notes during observations and wrote interpretive memos during data collection to capture emerging themes. To support the construct validity of my findings, I used multiple data collection methods (interviews, observations, and document analysis) and sources (principals, assistant principal, and teachers) and triangulated patterns across these sources (Maxwell, 2012).

I engaged in an iterative process of coding and data analysis. I began by coding the data for the four essential leadership practices related to improvements in instruction and student learning: articulating a vision for instruction, involvement in instruction and curriculum, promoting teacher learning and development, and fostering organizational structures and conditions to support teacher collaboration (e.g. Louis et al., 2010; Robinson et al., 2008). Then I used matrices to examine cross-case patterns (Miles & Huberman, 1994), focusing on how principals exercised leadership and how this reflected their underlying assumptions about the challenge presented by the CCSS. Evidence from principals' self-reports, teachers' reports, and school observations suggested that all three principals engaged in the four core leadership practices associated with improved teaching and learning; however, differences in how they exercised those leadership

practices revealed clear patterns in their assumptions about the nature of the policy problem.

### **District and State Messages about Policy**

Principals in this study responded not only to the CCSS but also to the policies developed at the state and district level, which were intended to support the implementation of the new standards. The large urban district in which the three schools in this study were situated was unique in that it was a highly decentralized system. Principals at each school had authority to choose curriculum, control a large portion of the school's budget, and hire teachers directly. This decentralization meant that principals in this district played a larger role than principals in more centralized districts in interpreting the meaning of the many policy messages they received from the district and state, choosing a path forward for the school based on this understanding, and communicating the meaning of these policy messages to teachers. In this section I outline the central policy messages that principals responded to as they framed the challenge presented by the CCSS for their teachers. Specifically, the three principals in this study described and were observed responding to six key sources of policy information: standards, district instructional expectations, state assessments, teacher evaluation program, district PD opportunities, and curriculum adoption choices.

Policy messages from district officials included information about what principals and teachers were accountable for and the ways in which they should learn how to meet standards. Beginning in spring 2013, the district held teachers accountable for teaching to the CCSS by administering state assessments in ELA and math, which were aligned with the new standards, as well as introducing a new teacher evaluation program based

on Danielson's (2007) Framework for Teaching. Results from the first administration of the new state tests exposed the vast disparity between expectations for student performance under the CCSS and the previous state standards. About half as many students qualified as proficient on the CCSS-aligned assessments as on the previous year's assessments.

The schools used Danielson's (2007) Framework for Teaching to evaluate teachers' instruction. It included an exhaustive list of 44 components associated with quality teaching, including components measuring the degree to which teachers conveyed high expectations for student learning, used questioning to encourage high-level thinking, and demonstrated a deep understanding of content. District documents explained that this teacher evaluation program was designed to encourage the instructional changes required for students to meet the CCSS. Although the standards do not prescribe particular instructional approaches, the adoption of the Danielson Framework served to connect principals and teachers with information about instructional practices that the district viewed as CCSS-aligned. All three principals viewed the CCSS and Danielson Framework as complementary. For example, Principal Taylor at Park Elementary said that the Danielson Framework called for "going deep" with content and asking high-level questions, which was what he thought that teachers needed to do to meet the CCSS.

The district also enacted policies that encouraged principals to support teachers in engaging in particular processes for learning how to teach to standards. Specifically, the district's instructional expectations called for principals to assist teachers in aligning instruction with the CCSS through adoption and creation of CCSS-aligned curriculum, providing PD based on newly adopted curriculum, analyzing student work and adjusting

instruction in teacher teams, developing a deeper understanding of high-quality instruction using the Danielson Framework, and giving frequent feedback on teachers' instruction based on the Danielson Framework. Nevertheless, these policy messages left principals with a great deal of discretion in organizing their response to standards. For example, principals chose whether to adopt new curricular options approved by the district, modify existing curriculum, or develop their own curriculum that would align with standards.

Importantly, all three schools were members of the CCIN, a network of 35 schools that volunteered to be early adopters of the standards, receive additional support, and serve as a lab for learning about this process. The network worked with a core group of committed teachers from each school to develop CCSS-aligned curricular units and engage in inquiry-based discussions of students' work and teachers' instructional plans. Inquiry-based protocols were used for teachers to investigate the degree to which their instructional plans and the work of their students met the expectations of the CCSS and the instructional changes they would need to make for students to meet these standards. In this way, the network's approach reinforced the district's instructional expectations. This focus on teacher collaboration reflects the assumption that teachers need opportunities for learning about standards with colleagues in order to translate abstract standards into explicit changes in practice. Although all schools were members of the CCIN, the degree to which principals framed the network's approach as central to their schoolwide efforts to meet the expectations of the CCSS varied by school.

### **Principals Frame the Challenge of the Common Core**

In the sections that follow I explain how each of the three principals framed the challenge presented by the CCSS and how teachers in their schools responded to these frames. The CCSS set expectations for student learning that exceeded prior instructional practice, leaving principals to chart a steep and uncertain path towards improved teaching and learning. Given the complex nature of teaching and learning, principals cannot be expected to determine one “right” way to support students in meeting standards; however, leaders play a significant role in setting the direction and authorizing particular responses to standards (Benford & Snow, 2000). Similar to prior research, I find that the principals’ framing differed in the degree to which they interpreted the CCSS as representing a learning challenge that required teachers to rethink and revise their instructional practice or an execution challenge that required them to carry out principals’ directives (Coburn, 2005; Edmondson, 2003; Goldsworthy et al., 2013). Additionally, I find that principals differed in the extent to which they characterized the challenge of the CCSS as one that was grounded in particular instructional approaches or in the interactions between instruction, educational materials, and students’ engagement in the learning process.

The principal at Sunnyside Elementary framed the challenge presented by policy as one of executing particular instructional approaches, regardless of content; however, the principal at Bay framed the challenge primarily as one that required learning how to make fundamental changes to teaching and learning. The principal of the third school, Park Elementary, seemed to draw on both of these frames equally, requiring the execution of specific instructional approaches while also encouraging deep learning about the instructional changes teachers would need to make to support students in meeting the

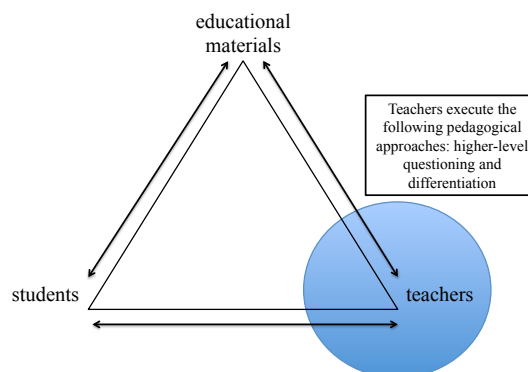
CCSS. Teachers were more likely to recognize the gap between their current practice and the CCSS and work to close this gap when principals framed the challenge presented by the CCSS as one that required new learning about instruction. Teachers complied when principals framed the challenge presented by standards as one that required the execution of particular instructional approaches or the use of new resources; however, their responses were often superficial or in conflict with the underlying principles of the CCSS. In the following sections I highlight how the three principals framed the challenge presented by the CCSS as they exercised leadership, what these frames suggested about their interpretations of the challenge presented by the standards, and how teachers responded to these frames.

***Sunnyside Elementary School: Doing the work for teachers***

Sunnyside Elementary is a small elementary school that serves 226 students, including a highly mobile population of students living in foster care and shelters. Teachers and the assistant principal described Principal Layla Russo as a supportive leader who worked to give students and teachers everything they needed to succeed. This included providing uniforms for students who needed them, creating a detailed instructional schedule for teachers, and providing the additional instructional resources teachers requested for supporting students in meeting the CCSS. The principal described the faculty as experienced and hardworking. Teachers who participated in the study had from two to more than 25 years of experience and most had taught at the school for five or more years. When Russo became principal, the school was in danger of being closed for poor performance. She reported that the school made “healthy, incremental gains” in

student achievement under her leadership. However, just when they were feeling comfortable with the state standards, everything “changed again.”

Russo characterized the challenge presented by the CCSS as one that required teachers to execute a set of prescribed pedagogical approaches. Specifically, she expected all teachers to ask high-level questions, differentiate instruction based on students’ needs, and use assessment data to inform instruction. The school also adopted new CCSS-aligned curricular materials with the input of the teachers in the school, but Russo described these as useful “tools” rather than guides for how to teach to the CCSS. Russo described clarifying her expectations to teachers: “We’re not judging you based on the curriculum, we’re judging you on best practice.” Her definition of “best practice” was communicated through her focus on high-level questioning, differentiation, and using students’ performance data. She explained that this focus came from the Danielson Framework, and she viewed these pedagogical practices as critical for the CCSS. As I illustrate in Figure 1 below, this framing reflected the underlying assumption that teaching to new standards was primarily an issue of changing teachers’ pedagogical approaches.



**Figure 1.** Principal’s framing and the relationship to instruction at Sunnyside Elementary



Russo was concerned that “developmentally, [the CCSS] may not be appropriate” for their students. She explained that the standards were higher but the “dysfunctional aspect of their [students’] lives” had not changed. She seemed to view her role as a leader as one of minimizing the uncertainty presented by the CCSS for teachers. For example, she created a schedule that described the specific approaches teachers should use in each subject. Russo explained, “This year we’ve done it for them...Everyone has [a pacing calendar and schedule], so everyone knows what they should be teaching.” She told teachers that she expected there to be “no deviation from this.” This schedule was posted next to the office. For example, the third-grade schedule included the following reminder for using grouping to differentiate instruction in reading: “word wall activities must be in small groups!!” Russo described visiting teachers’ classrooms to make sure they were grouping students to differentiate instruction: “What I’m telling them is that if there is more than one teacher, they can be at different groups.” This feedback to teachers reflected Russo’s focus on monitoring teachers’ use of specific instructional approaches. The schedule and feedback Russo gave to teachers reflected the assumption that teachers needed the principal to tell them how to teach to new standards. This view of teachers presents a sharp contrast to the vision for students as “self-directed learners” described in the CCSS (CCSSI, 2010).

Principal Russo supported teachers in executing high-level questioning, differentiation, and using data to inform instruction by providing PD on questioning, giving all teachers Bloom’s Taxonomy flipbooks, and hiring a teacher to serve as a data

specialist. She expected all teachers to use the flipbooks to include high-level questions in their instructional plans and classroom practice. The principal explained, “We don’t want to see level one or two questions. We are looking for level six.” Whereas level one and two questions would require students to recall or understand information, Principal Russo wanted teachers to be asking level six questions, the highest level of Bloom’s Taxonomy. Level six questions require students to evaluate information. Four teachers described the principal’s focus on high-level questioning and differentiation as helpful for encouraging critical thinking among students. In practice, however, teachers’ responses to the principal’s focus on pedagogy (i.e. higher-level questioning) without regard to specific content or students’ needs seemed to encourage superficial responses among teachers. For example, one teacher shared a list of level five and six questions from Bloom’s Taxonomy that she developed to use for all content areas.

Russo expected every teacher to assess students weekly in all subjects, use this data to monitor student learning, and create flexible groups to differentiate instruction. To support this, each grade-level team met with the data specialist weekly. Observations of grade-level meetings revealed that these meetings were primarily focused on sharing information. For example, in two grade-level meetings the data specialist gave teachers a list of the students in their classes who scored in the lowest third of students on the state test and communicated the expectation that teachers would raise their test scores. In neither meeting did they discuss what they would do to address these students’ needs. One teacher did ask the data specialist for practice test questions similar to those his students had missed, and the data specialist agreed to provide these resources. The focus on distributing information and setting expectations for student performance in these

meetings reinforced the frame invoked by principal Russo, which characterized the challenge of the CCSS as one that required the execution of a set of prescribed “best practices” rather than shared examination of instruction.

Principal Russo held teachers accountable for carrying out the three “best practices” by providing direct feedback on lesson plans and instruction, setting the instructional schedule for teachers, and requiring teachers to publicly post data from their weekly student assessments. In an interview, Principal Russo described giving instructional feedback as one of her priorities, and all teachers interviewed described receiving feedback that focused on questioning and using multiple points of entry, or differentiated groups, for instruction. A teacher described getting feedback from the principal on differentiation: “Yesterday she said, ‘Do your mini lessons in small groups. There’s no need to meet with the whole group.’ ” The teacher explained that they were meeting with small groups to differentiate instruction, but the principal wanted them to spend more instructional time with small groups of students. Examples of instructional feedback described by teachers provided additional evidence of the principal’s focus on pedagogical approaches that she expected to see during instruction, regardless of the content of the lesson.

All teachers said they viewed the approaches of high-level questioning, differentiation, and data use as important for supporting students’ learning and they reported incorporating these practices into their instruction. For example, all teachers described giving weekly assessments to monitor students’ learning and create differentiated groups for instruction. All teachers had data walls with the results of these assessments and lists of student groups posted in their classrooms. Another way teachers

sought to demonstrate compliance with the principals' expectations was by including the following phrase in their lesson objectives posted on the board: "Using multiple points of entry, students will \_\_\_\_."

Despite teachers' willingness to execute the principals' directives, engaging in these practices in a meaningful way proved challenging. For example, during one observation two teachers planned to have students break into small groups to answer differentiated questions about the text they were reading as part of their new CCSS-aligned curriculum. The questions teachers planned to ask students focused on comprehension and analysis of text evidence and included differentiated levels of support depending on students' performance on recent ELA assessments. However, when their students were unable to recall basic information from the chapter they had read, the teachers could not move on to the higher-level questions planned for small group instruction.

In another class, the teacher differentiated instruction by asking students to respond to different questions in the textbook. The learning objective on the board stated: "Using the process of multiple points of entry, we will analyze the stages of an animal's life cycle." On the surface, this objective signaled compliance with the principal's directive to include multiple points of entry for differentiation and higher-level work, represented here by the word "analyze" from Bloom's Taxonomy level 4. However, the actual questions that the teacher asked and assigned from the textbook almost all focused on recall of information (i.e. "What's the first stage in a human's life cycle?"), the lowest level of Bloom's Taxonomy. Although the teacher differentiated instruction by assigning different questions in the textbook to students, who were grouped based on assessment

data, the questions varied little in cognitive demand and generally required only recall of information. These examples suggest that the principal's focus on executing specific instructional approaches may have led only to superficial changes to practice.

***Bay Elementary School: A focus on learning***

Bay Elementary is a small school that serves 244 students, including a relatively large proportion of students with special needs and English learners. Principal Janice Cooper, who had led the school for 10 years, acknowledged that they had made progress in improving student learning but still had a great deal of work to do to support their students in being career and college ready. She viewed the experienced teachers in the school as being dedicated to improving student learning. All teachers interviewed had between 7 and 30 years of experience and most had been teaching at the school for 10 or more years. Teachers described the principal as a "hands-on" administrator who worked with teachers on a daily basis. All teachers stressed the high expectations of the principal. As one teacher explained, "She supports us. She has high expectations. We try to come together and work collaboratively to make the school better." This teacher described the principal's high expectations as being focused on using inquiry-oriented processes for improving student learning: "looking at student work and analyzing it and planning for next steps."

In contrast to Principal Russo's focus at Sunnyside on executing prescribed pedagogical approaches in all content areas, Cooper encouraged teachers at Bay to work together to determine how to address students' learning challenges in a specific content area. Although the school's content focus evolved from improving students' writing to also include close reading during the year of the study, the principal maintained the focus

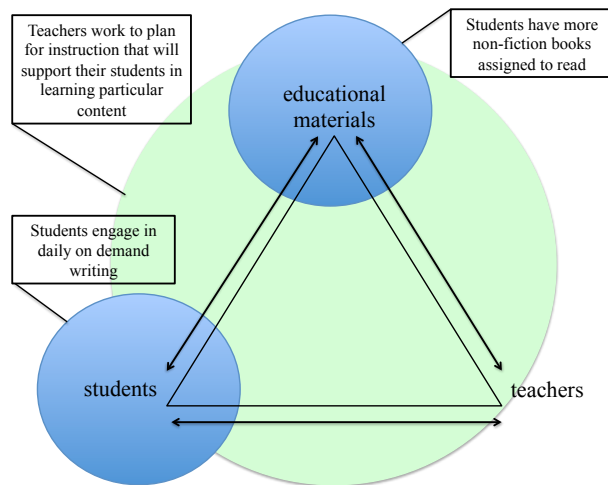
on working collaboratively to improve instruction by analyzing instructional plans and student work. Teachers reported that the principal's focus originated in the increased focus on writing on the new state tests as well as the needs of their students, particularly their English learners. Teachers seemed to view this focus as compelling because it brought attention to the language needs of their students and reflected the work that students and teachers were held accountable for by state testing.

Principal Cooper described the nature of the challenge presented by the CCSS as one of supporting students in learning from and using evidence from text:

In literacy, we're still struggling because... kids are still lacking that deep understanding. They can read and recall facts and details but that—making an inference—you read and it's not all there. You infer. That's the piece that we are finding kids have difficulty with.

For Cooper, the CCSS raised questions about the kinds of texts students should read, how teachers could support students in learning from more complex texts and using evidence from text in their writing, and whether the curriculum teachers were developing was rigorous enough to prepare students to meet the new standards. As I illustrate in Figure 2 below, Cooper framed the challenge of the CCSS as one of students engaging with more rigorous educational materials (i.e. complex texts) and teachers making the instructional changes necessary to support their students in comprehending and responding to these materials. In this way, she framed the challenge of the CCSS as grounded in what Cohen and Ball (1999) would call “*the interactions among teachers and students around educational materials*” (p. 2). Principal Cooper asked, “How do you assess a piece of text for rigor” and adjust “the level of difficulty for kids, so that you up their reading level”

while ensuring that “they can really access difficult texts?” She expected teachers to explore these questions and organized PD opportunities, faculty meetings, and the work of teacher teams to support their shared investigation into the changes in texts, tasks, and instructional practices that would support students in meeting the new standards.



**Figure 2.** Principal’s framing and the relationship to instruction at Bay Elementary

Under the direction of Principal Cooper, teachers engaged in learning how to plan for and deliver instruction that would support students in meeting standards. But they also carried out top-down directives from the principal about the changes called for by standards. These directives focused primarily on the materials students read. Cooper explained: “We increased the number of informational texts that kids need to have [in their book bag] that they’re reading.” On the other hand, Cooper characterized PD and collaboration in teacher teams as opportunities to determine how teachers and students would work with these materials to meet standards. For example, Cooper sought out expertise from the PD network to assist teachers in working together to design curricular units that required students to learn from and use text evidence in their essays. The

school's improvement plans reflected this twin focus on execution and learning. As part of their schoolwide goals, the principal required students to read more non-fiction books and engage in daily writing in all content areas and she expected teachers to engage in inquiry with colleagues about how to improve students' performance in writing.

Even as a "hands-on" principal, Cooper could not routinely be present in classrooms and team meetings. Instead, she set the direction for teachers' work with standards by giving feedback on instruction, setting the agenda for grade-level team meetings, seeking out PD opportunities related to their focus, and making time for teachers to learn from each other. Teachers described, and I observed, the principal influencing teachers' instructional practice by modeling the kinds of questions and tasks that she wanted teachers to have students working on, as well as giving them feedback about how they could improve their instruction of particular content. For example, during a lesson in which both fifth-grade classes had come together to collect video evidence as part of a research project in social studies, the principal interjected with a question and assignment. She asked the students to consider another perspective on the Native Americans' experience, complete a writing assignment that included four pieces of evidence to support their argument, and submit it to her.

When teachers were later working with students to complete this assignment, one of the teachers echoed the principal's expectations to a student. She emphasized, "[Principal Cooper] said she wants at least four reasons. That's a way to assess if you really understood what you saw." In this way, the teacher reinforced the principal's expectation for using evidence for students. Another fifth-grade teacher explained,



That question that she threw out in there and the way she wanted them to look at the other point of view, that's the kind of work that she wants us doing...She gets a lot of training too... I love the fact that she came in and had them think about the [other perspective]...It really got them thinking, and we have work. We have an essay, not just a paragraph, or not just jotting notes. No, they really had to sit and think about it, so I really like that. And she does that all the time.

By getting directly involved in instruction, the principal communicated how she interpreted the content-specific work necessary for meeting the demands of the CCSS, which, in this case, included considering different perspectives and using evidence to support that perspective in writing. In this example, the principal invoked her frame of the meaning of the CCSS for writing directly in the classroom and teachers reinforced the frame as they invoked it in working with their students. Nevertheless, the principals' influence was generally much less direct.

The principal and teachers described three main ways in which Principal Cooper had organized the work of the school to support teachers in learning to teach to the CCSS. First, she expected grade-level teams to engage in inquiry work about how to improve instruction and students' performance in writing. Although Cooper expected all teachers to focus on improving writing instruction, each teacher team generated their own focus question to investigate related to writing. The principal communicated the importance she placed on their inquiry by sitting in on inquiry meetings, using whole-faculty meetings for teams to engage in the inquiry process, changing the schedule to allow more time for collaboration in grade-level teams, and making time to give feedback on each grade-level team's inquiry work during team leader meetings. According to

several teachers, Cooper had changed the schedule to allow more time for collaboration in grade-level teams and as a full faculty. The principal held teachers accountable for the decisions they made in revising instructional plans and the student work that resulted by requiring teachers to post all unit plans and culminating writing on bulletin boards and reviewing this work as part of teachers' evaluations. Second, Cooper brought in experts from the CCIN, district, and curriculum providers to assist teachers in learning how to design writing tasks and support students in engaging in reading and writing at the level required by the CCSS. She described their work with the CCIN: "Looking at some of the tasks we've created and seeing if it is rigorous enough, if it meets that high standard that kids are going to be required to know. That's why we stayed with the [network] for the three years." Finally, she used faculty meeting to engage in shared learning and make connections between their learning about instruction and the demands of the policy environment. For example, in one faculty meeting the principal had teachers present on how carrying out the practices learned in recent PD sessions would support them in meeting the expectations for instruction set by the Danielson Framework.

Cooper acknowledged that learning to teach to the CCSS while meeting the needs of their current students was a challenge that required both intensive professional learning opportunities and learning on the job. Cooper explained that sending teachers out for more all-day PD as part of their work with the CCIN was not always an option.

We're a small school, so if you pull everyone out, who's left to teach? As much as we were doing this work around the Common Core, students still need to learn. So we weren't able to have as many people [attend network PD] as I would have liked. Again, even as you're implementing Common Core, you still have to make

sure that what they need to know now, they know now, and you're preparing them now. You can't—those kids can't lose an entire year because their teachers are out so many times during the school year.

Instead of relying exclusively on outside PD, Cooper also built in opportunities for what Edmondson (2012) calls execution-as-learning, or learning while carrying out their core responsibilities, during teacher team and faculty meetings. She set the agenda for team meetings, regularly asking teachers to revise their unit plans to better meet the CCSS and incorporate learning from PD. Teachers described their instructional plans as “living documents” that they continuously adjusted based on new learning. By framing the problem presented by the CCSS as one that required teachers to “figure out” how to support students in working with content in particular ways, Cooper authorized the teachers to seek out problems of practice and revise their instructional practice to improve student learning.

At Bay, teachers worked with their colleagues to determine how they could help students comprehend and use evidence from texts in their writing. For example, six teachers described or were observed using educational videos to support students in interpreting and using evidence. One third-grade teacher explained,

This year the focus is on writing. A lot of the test was multiple-choice before. Now there is more emphasis on writing. Now we're spending more time on main idea and details. They are doing guided practice with videos to make it easier for students and using text to have students do their own independent work. This is hard work for third-graders.

In both third-grade classes, teachers were observed supporting students in interpreting evidence from informational science videos during a 20 minute whole-class lesson and then reading informational texts independently or in a small groups with a teacher.

In one class, the teacher showed a brief video on badgers then asked students to name important details they learned. She modeled how to write this evidence in a paragraph about badgers. Then she asked students what conclusions they could draw, which required them to draw inferences from the evidence. Although many students were able to name details, they struggled to draw a conclusion. The teacher said she would help them and wrote: “Badgers are \_ creatures.” This action, as well as the use of video, rather than text, simplified the work of the students. Nevertheless, she continued to ask students for evidence to support their conclusions. Observations of all teachers at Bay provided evidence that they were actively working to make some of the central shifts called for by the CCSS, such as using text evidence in writing. Principal Cooper authorized teachers to work with colleagues to figure out how to support the students in meeting the CCSS. When caught between the ambitious goals of the standards and the needs of their students, teachers frequently simplified students’ tasks with additional teacher support or the use of video rather than complex text.

Cooper brought in experts from the CCIN to support teachers in revising instruction to better meet the CCSS. The network helped teachers learn to design curricular units aligned with the CCSS. With the assistance of network experts, teachers observed their colleagues teach lessons from these units and gave feedback for improving these lessons. Two teachers described this experience as their most meaningful learning experience related the CCSS. One teacher explained that you had to be trained and “you

have to reflect ‘What do I think I did? How do I think I did? Could I have done better?’ That was helpful. It was brutal, but it was helpful.” She clarified that having her peers evaluate was tough, but “the intention [was] for us to do better and to improve our craft.” Through training and reflection she changed her beliefs and practice: “You thought, okay, you’re doing it right...But then you realize. No, you have to really, totally revamp your entire lesson. Instead of teaching the students—at the beginning of the lesson you’re just trying to impose all your knowledge—you have to really question them and get them thinking.” This reflective process helped her reimagine “teaching” as supporting students’ thinking rather than imparting information. Her account highlights the difficult work Principal Cooper was asking teachers to do in grappling with the challenge presented by the CCSS. This focus on improvement was a core element of how Cooper framed the challenge presented by the CCSS, which teachers described as valuable even though it was often personally challenging.

***Park Elementary School: Setting the floor for execution, encouraging the learning that supports ambitious instructional improvement***

At Park Elementary, a large school that serves just over 500 students, both the principal and faculty at Park were highly experienced. The principal had worked in the building for nearly three decades; all teachers interviewed had between four and 30 years of experience, and most had been teaching in the school for 15 or more years. Principal Taylor described the progress they had made since he became principal 14 years ago:

We have made consistent progress over time. We came out of corrective action two years after I took over the school, and we have been a school in good and regular standing for the past 10 years. We were recognized by the state for five

consecutive years for closing the achievement gap. For me, this progress is ongoing... There is always a new mountain to climb because we're dealing with children here who continue to struggle.

He recognized that supporting their students in meeting the CCSS presented a major challenge for teachers and some teachers had been more successful than others in revising their instruction in response to the new standards. Taylor characterized the range of instructional practice at the school by describing how he had visited some classrooms where teachers were “only scratching the surface” and others where teachers were asking questions that “challenge students’ thinking, not yes or no answers but analytical questions,” and students “challenge each other.”

Principal Taylor described lesson planning as being central to addressing the challenge presented by the CCSS: “It starts and ends with the plan. If the plan is not where it should be, then nothing much matters.” He believed that the teachers who were successful in teaching to the new standards engaged in an intensive instructional planning process. He explained, “You can see that they are looking at the data for each student. They are looking at student work. They are looking at where students are and where they need to go.” He focused the school’s improvement plan on teachers’ instructional planning, asking higher-level questions, and differentiating instruction. The principal explained that this focus came from the Danielson Framework. For example, Danielson’s (2007) Framework describes the following as evidence of “distinguished” instructional planning: “The teacher coordinates knowledge of content, of students, and of resources, to design a series of learning experiences aligned to instructional outcomes [and] differentiated where appropriate to make them suitable to all students” (p. 4). Taylor

viewed the CCSS and the Danielson Framework as working towards the same goals because they both called for “a higher level of instruction” that “can be applied to any discipline across the grade.” All teachers interviewed said that the Danielson Framework influenced their instruction because it was the focus of their work as a school, connected to their PD, and reflected the expectations that the principal would hold them accountable for meeting in their evaluations.

Teachers reported and I observed that they were held accountable for including in their lesson plans and posting in their classroom the standards for students and the aspects of the Danielson Framework that they were addressing. For example, during one observation the teacher had written two Common Core standards for the lesson and had posted the area of the Danielson Framework she addressed as a teacher, “3b. Using questioning and discussion techniques.” This teacher explained, “[Principal Taylor] issued a memo which dictated that for every lesson, you should have two standards aligned to the lesson and that the standard should be aligned to your learning objective.” Similar to Sunnyside, this directive seemed to encourage superficial compliance rather than meaningful changes to instruction. Most teachers described the process of teaching to standards as one of “plugging in” standards that related to their objectives rather than revising their instructional practice based on standards or the Danielson Framework. This was evident in student work displayed to demonstrate how students had met standards, which frequently paired lower-level tasks with higher-level standards. For example, a third-grade teacher displayed the brochures students created as part of the unit of study she designed with her grade-level colleagues. The brochures were designed to meet the following standard: Recall information from experiences or gather information from print

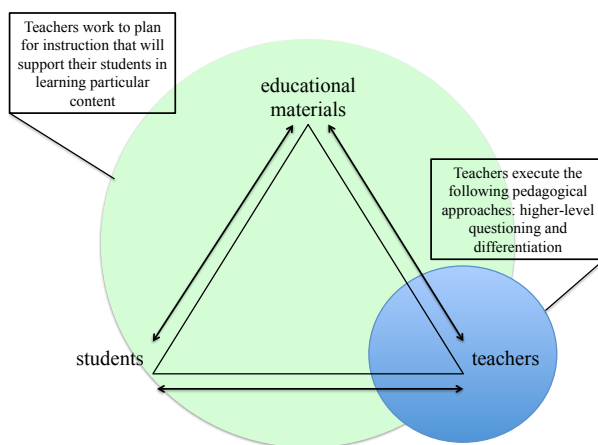
and digital sources; take brief notes on sources and sort evidence into provided categories. However, all brochures had the exact same information, suggesting that this information had been copied from a teacher's example rather than gathered from print or digital sources. On the other hand, student work from some classes demonstrated the higher level work called for by the CCSS, such as written research reports and research displays based on text evidence, students explaining their reasoning, and engaging in debates using evidence from multiple articles. The principal's directives for including the CCSS in lesson planning seemed to set the floor for the work of teachers, ensuring that they all were aware of standards while allowing superficial compliance.

Taylor framed the challenge presented by the CCSS as one that required teachers to execute the pedagogical practices outlined in the Danielson Framework across all content areas, but he also encouraged teachers to work with their colleagues to figure out how to develop instructional plans that would support their students in meeting the new standards (see Figure 3 below). As part of this, Taylor worked on "forming teacher teams at every grade-level and building...a community of learners." He did this by encouraging teacher collaboration, developing a team of teacher leaders who engaged in shared learning about teaching to standards, and providing opportunities for teachers to learn from the work of teacher teams during faculty meetings. For example, the principal had the fourth-grade team share about their experience planning CCSS-aligned curricular units and engaging in collaborative inquiry during faculty meetings. The CCIN had trained teachers to plan curricular units aligned with the CCSS and engage in inquiry to improve these plans to better meet students' needs. The fourth-grade team had devoted extensive time to developing and improving units. The team leader explained,



The fourth-grade, we know because the testing is so heavy on us that we have to prepare our students for writing these opinion pieces, so we take it on. We're like, 'Let's go. We have to get them ready.' So we don't quarrel about, 'That's too much work. We don't have to do it anymore.' It has to be done if we want them to succeed.

As I describe in greater depth in Stosich (2015), these teachers viewed their colleagues as knowledgeable about instruction and they had a strong sense of commitment to improving their practice as a team. This collective commitment supported them in working intensively to design and adapt curricular units aligned with the CCSS. While many teachers at Park described the teaching called for by the CCSS as similar to their previous practice, the fourth-grade teachers described changing their beliefs about what they and their students could accomplish, after witnessing the work of their students on these CCSS-aligned curricular units.



**Figure 3.** Principal's framing and the relationship to instruction at Park Elementary

The fourth-grade students had outperformed the average performance of students in the district on the new CCSS-aligned state test, earning these teachers recognition

across the school. By featuring the successful collaborative work of these teachers during faculty meetings, the principal framed the challenge presented by the CCSS as requiring teachers to engage in intensive collaborative planning to meet the needs of their students. Several teachers in other grades described finding the success of the fourth-grade team inspiring, but they acknowledged that this work took a great deal of time and energy beyond what was required by the principal or their union contract. Most teachers chose not to engage in this intensive collaboration with colleagues. The principal's framing of the importance of team collaboration around standards led to deep levels of learning and revised instructional practice among some groups of teachers; however, teachers were encouraged rather than compelled to engage in collaborative learning.

Taylor described his vision for coherent planning, questioning, and differentiation as being important for setting the direction for where he wants "to take their school, but central to that vision are the people that you work with. You need teachers to buy into your vision and make them stakeholders in where you want to take the school." He did this by giving teachers responsibility for determining "what they need to do" to work towards this vision, "empower[ing] teachers with leadership roles," and holding them accountable for realizing schoolwide goals. As part of their work with the CCIN, the principal was asked to develop a committee of teacher leaders who would participate in extensive PD on how to teach to the CCSS and then lead the learning about the standards back at their school. Taylor viewed the committee as critical in leading the work about the CCSS in their school:

They are able to meet their colleague at their own level and encourage them to be part of the process instead of being—"Oh well, this is complex stuff. My kids are

not ready for this type of instruction”—Oh no, we find ways and means to tailor the instruction to fit the learning environment or the different learning styles in the classroom. So they play a very vital role in meeting their colleagues where they are, talking with them one on one, inviting them into their classrooms to show them how to go about implementing certain features of the Common Core. Teachers on the committee described some of their colleagues as resistant to the collaborative inquiry and instructional planning processes that they were learning about in the CCIN. Although teachers on the committee were eager to share about their work with the CCSS, they did not view it as their role to critique the work of their colleagues. Similar to Taylor, they encouraged their colleagues to take part in this collaborative approach to learning about standards, but individual teachers could choose whether or not to take up this more intensive work with standards.

### **Learning, Execution, and Instruction**

The principals at these three high-poverty schools faced the same challenge: ambitious standards that called for levels of student learning that were higher than previous state standards had required and far beyond the current state of teaching and learning in their schools. As these principals responded to the CCSS, they defined the nature of the challenge presented by these standards and set the direction for the work of the teachers in their school based on their assumptions about policy. The principals' framing of the challenge presented by the CCSS reflected the assumption that teaching to new standards required executing particular instructional practices, using specific educational materials, learning about how teachers and students would work with different materials, or a combination of these assumptions. The principal at Sunnyside

sought to minimize uncertainty by setting clear expectations for the pedagogical approaches she expected all teachers to execute. In contrast, the principal at Bay relied primarily on creating opportunities for teachers to engage in collaborative learning about standards and how to revise practice to meet these standards. The principal at Park Elementary used a combination of instructional directives for execution and processes for learning to encourage teachers to align their instructional practice with the goals of standards.

By framing the challenge presented by new standards as one that requires the use of particular pedagogical approaches or educational materials, leaders can draw on their positional power and expertise to coordinate the work of teachers. Leading teachers in teaching to new standards was not a challenge of gaining “buy-in” or ensuring faithful implementation for these principals. All teachers interviewed spoke about complying with their principal’s directives, whether they called for requiring students to read more non-fiction, using the new curricular materials, or asking higher-level questions. These directives reinforced the expectations teachers were held accountable for meeting by state tests and the teacher evaluation program. However, some directives were easier to implement than others. For example, teachers at Sunnyside and Park described including higher-level questions in lesson plans but were observed using this pedagogical approach in ways that failed to meet the goals set by standards. When principals frame the challenge presented by new standards as simply a matter of execution, they may discourage teachers from seeking out and solving the problems of practice that arise during enactment.

An execution frame also fails to address the complex interactions between teachers and students as they engage with content. The use of the Danielson Framework for teacher evaluation seemed to encourage principals to focus on execution of particular pedagogical approaches. Teachers at Park and Sunnyside described the principal's expectations for meeting the goals of the CCSS in terms of their general pedagogy, specifically, designing detailed instructional plans, asking higher-level questions, and differentiating instruction. The frames invoked by Principal Russo at Sunnyside grounded responsibility for the policy problem in teachers' pedagogy rather than teaching and learning more fully; whereas, Principal Taylor at Park framed the challenge presented by standards as one that required both the execution of particular instructional approaches and ongoing learning about how to design instruction to support their students in meeting the CCSS. Both principals seemed to use the pedagogical approaches outlined in the Danielson Framework as a way of simplifying the work of teachers in teaching to the CCSS; however, Taylor acknowledged that ongoing learning would be necessary to be successful in teaching to the new standards.

As teachers make sense of standards, they seek out information about policy that can be directly integrated into practice (Coburn, 2001; Stosich, 2015). Similarly, principals may seek out information, such as teacher evaluation frameworks, about the specific actions teachers can take to meet standards. Nevertheless, teaching and learning are complex and rely on the interdependent actions of teachers and students as they work with content (Cuban, 2013); thus, execution of pedagogical approaches does not guarantee student learning and an exclusive focus on execution may discourage teachers from seeking out and addressing problems that arise during execution. Teachers willingly

executed principal directives during classroom instruction at Park and Sunnyside.

However, observational evidence revealed that executing principal directives in a way that supported meaningful student learning often proved difficult.

When principals framed the CCSS as presenting a learning challenge, they authorized teachers to identify problems of student learning, experiment with new approaches and materials, and revise their instruction to better support their students in working with new materials to meet standards. In this way, a learning frame encouraged teachers to investigate the changes to instructional practice necessary for meeting the new standards more comprehensively. In doing so, they were able to draw on the collective capacity of the teachers in the organization to solve challenges presented by the CCSS. Evidence from Bay Elementary suggests that framing the challenge of teaching to the standards as one that requires what Edmondson (2012) calls execution-as-learning may be more fruitful than framing the challenge as one that requires faithful execution. As teachers engaged in instructional planning, Principal Cooper framed this work as revising their instructional plans to support students in meeting standards. Similarly, Principal Taylor at Park encouraged ongoing learning about instruction in teams and made time for teachers to share new learning with their colleagues. In doing so, both principals communicated to teachers that they expected their instructional practice to change over time as they learned more about standards, instructional approaches, and their own students.

Nevertheless, the work of teachers at Bay Elementary also raised questions about how principals can balance framing the challenge presented by new policy as one that requires new learning and providing direction to teachers as they take on this learning

challenge. Observations of teachers' practice and students' work at all three schools revealed that teachers were likely to reduce the cognitive demand of the work called for by standards as they integrated them in practice. The CCSS represent a significant shift from previous state standards and teachers' reported instructional practice (Porter, McMaken, Hwant, & Yang, 2011). Thus, teachers will likely need direct guidance in addition to opportunities for learning in order to revise their practice in ways that promote student mastery of the CCSS.

### **Implications for Policy, Research, and Practice**

Leading in a time of ambitious instructional reform requires principals to set the direction for learning and improvement in an uncertain environment. My findings suggest that principals who frame the challenge presented by instructional policy as one that requires teachers to learn to work with students and educational materials in new ways are more likely to close the gap between existing practice and the goals of policy than those who frame the challenge as one of simply executing top-down directives. The experience of principals and teachers in these three schools makes clear that supporting students in high-poverty schools in meeting the goals set by the CCSS requires intensive and ongoing learning, including learning while carrying out the core work of the organization.

District policies and PD that encouraged inquiry and collaborative development of curricular units in teacher teams communicated the importance of engaging in collective learning processes as part of teaching to the CCSS. District and state policies that encourage job-embedded collaborative learning play an important role in not only promoting teachers' learning about standards but also communicating to principals the

importance of making ongoing professional learning a priority at their schools. In contrast, principals at Sunnyside and Park Elementary interpreted Danielson's Framework for teacher evaluation as a list of pedagogical practices to be executed by all teachers. District policymakers may be more successful in supporting teachers in meeting the expectations set by teacher evaluation frameworks if they include specific guidance on the learning opportunities necessary for teachers to be successful in adopting and executing these pedagogical approaches with their students.

The CCSS set ambitious goals for what students should know and be able to do and leave educators within schools to determine how to respond to these standards, along with multiple policy messages from districts and states designed to aid implementation of the standards. I argue that framing is an essential leadership practice for leading reform. Although the framing process often happens unconsciously (Goffman, 1974), my findings provide additional evidence that leaders can deliberately use framing to set the direction of the work of their organization in ways that support continuous improvement in instruction and student learning (Anagnostopoulos & Rutledge, 2007; Edmondson, 2003, 2012; Coburn, 2006). When principals frame the challenge presented by standards as a learning challenge that requires the collective efforts of teachers, they can mobilize teachers to investigate and revise their instructional practice to better assist students in meeting these expectations. The experience of teachers at Sunnyside Elementary suggests that leaders may not be able to foster meaningful improvements in students' learning by focusing on pedagogy alone. Further research is needed to understand the specific actions leaders can take to foster more comprehensive instructional change in response to policy.



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## **Chapter 3.**

### **Professional Development that Builds Capacity for Meeting the Common Core State**

#### **Standards in High-Poverty Schools: Advancing a New Theory of Change**

##### **Introduction**

The Common Core State Standards (CCSS) are designed to support excellence and equity in student learning by setting ambitious goals for what students should know and be able to do in grades K-12 and holding all students accountable for meeting these same high standards. These new standards raise the bar for student performance even higher than previous state standards by emphasizing more critical thinking and less routine learning in English language arts (ELA) and mathematics (Porter, McMaken, Hwant, & Yang, 2011). These increased expectations for students require commensurate increases in the knowledge and skills of their teachers. Importantly, the CCSS aim to set clear goals for student learning but also to give teachers, districts, and states discretion for determining how to meet these goals (Common Core State Standards Initiative, 2010). Scholars argue that meeting policy goals depends on not only the instructional capacity of individual teachers but also the capacity of the school to respond to external demands (Elmore, 2004; Little, 1999).

Professional development is an essential tool for bridging the gap between ambitious policy goals and the capacity of teachers and their schools to meet these goals. Extensive professional learning opportunities are particularly important for teachers in high-poverty schools that have struggled to support students in meeting previous state standards. Typically, professional development is designed to enhance individual

teachers' instructional capacity, or teachers' knowledge, skills, and beliefs. Teachers select workshops to attend and make individual decisions about whether and how to apply their learning back in their classroom (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009). This approach to professional development reflects both the isolated nature of teachers' practice in classrooms (Lortie, 1975) and the pervasive cultural norms of autonomy, privacy, and egalitarianism (Little, 1990; Donaldson et al., 2008). These norms hold that each teacher has the authority to decide which ideas from professional development, if any, she will take up and use in her classroom, the expectation that she will make these decisions with limited intrusion from others, and the assumption that no teacher is considered more expert in making these judgments than any other. When professional learning opportunities reinforce rather than challenge these norms, increased teacher capacity "occurs roughly in proportion to the number of teachers who are intrinsically motivated to question their practice on a fundamental level and look to outside models to improve teaching and learning" (Elmore, 1996, p. 16).

Research suggests that professional learning opportunities are more meaningful when schools use them as part of a schoolwide strategy for building the instructional capacity of teachers and the school as a whole (Borko, Elliott, & Uchiyama, 2002; Newmann, King, & Youngs, 2000). School capacity describes the collective ability of the faculty to improve instruction and student learning schoolwide. Schools with higher levels of initial school capacity are often better able to leverage professional development to enhance overall capacity for supporting student learning (Bryk, Sebring, Allensworth, Easton, & Luppescu, 2010; Newmann et al., 2000). This presents a challenge: schools with lower levels of initial capacity are less able to support students in meeting policy



goals and benefit less from traditional professional development approaches than schools with higher levels of capacity.

There is a rich literature on the features of effective professional development (e.g., Borko, 2004; Darling-Hammond et al., 2009) and the essential elements of school capacity that promote excellence and equity in student outcomes (e.g., Bryk et al., 2010; Newmann et al., 2000). What remains unclear is how to build school capacity, including how to design professional development programs that enhance both the capacity of teachers and their schools for improving instruction in schools with low levels of initial capacity. Recent research suggests that professional development can be used to build school capacity in the areas of 1) teachers' knowledge and skills, 2) teachers' professional community, 3) teachers' leadership, and 4) principals' leadership (Borko et al., 2002; King & Bouchard, 2011; Newmann et al., 2000). However, few studies examine professional development interventions that are expressly designed to build school capacity (see King & Bouchard, 2011 as an exception). Instead, most existing research explores how individual schools leverage professional development to build capacity in one or more of these areas.

In this study I examine the Common Core Innovation Network, a professional development initiative designed to enhance the capacity of teachers and their schools to meet the demands of the CCSS, and the experience of teachers and principals in two high-poverty schools who participated in the network. The CCIN's approach was guided by the belief that teachers are professionals who should work with colleagues to determine the best methods for meeting the CCSS rather than being told how to respond to standards by outsiders. According to the CCIN's theory for change (Weiss, 1995), if a

small group of teachers from each school 1) learns how to design curricular units aligned with the CCSS, 2) engages in collaborative inquiry practices for analyzing and improving these curricular units and the work of their students that results, and 3) develops leadership skills for facilitating this collaborative work, they will develop a deep understanding of how to teach to the CCSS and engage in the collaborative practices that will support ongoing learning about standards. These teachers, in turn, would be expected to act as leaders back at their school by sharing their expertise about curricular planning, instructional approaches, and collaborative inquiry practices. In this way, the CCIN was designed to improve the capacity of participating schools to meet the CCSS by enhancing teachers' knowledge and skills in teaching to the new standards, the collaborative practices of teachers' professional community, and teacher leadership.

In this study, I analyze the efforts of the CCIN from the perspective of the PD leaders who designed the learning opportunities and the teachers and principals in two high-poverty schools, Bay and Park Elementary, who participated in the network. My findings suggest that the network leaders overestimated the power of collaborative inquiry for supporting teachers in learning to meet new standards and underestimated the challenge of developing deep instructional expertise and authentic teacher leadership. When teachers who participated in external network PD returned to their schools, their efforts to influence instruction at their school were constrained by their limited understanding of how to teach to the new standards as well as by the strong professional norms of egalitarianism and individual autonomy among teachers. Teachers who participated in network PD shared information, resources, and stories about their experience while allowing their colleagues to exercise discretion in choosing whether or

not they would apply these ideas in practice. For most teachers at Park Elementary, these decisions were made individually and led to limited changes in practice. In contrast, four fourth-grade teachers at Park Elementary and the full faculty at Bay Elementary made curriculum development and inquiry the focus of their collaborative work, sought out additional support from network leaders, and, consequently, described changing their practice and beliefs about instruction based on this experience. Importantly, school-based support from network leaders was optional and not all principals and teachers took advantage of this opportunity. Similar to previous research, I find that the degree to which the practice of teachers and the school as a whole were influenced by the CCIN depended on several factors: the existing capacity of the teachers and their schools, including the instructional capacity of teachers; collegial ties among teachers; and the leadership of the principal. I conclude by proposing a new theory for designing professional development that improves high-poverty schools' capacity for teaching to ambitious academic standards, addressing the need to develop and leverage teachers' knowledge and skills, professional community, and teacher and principal leadership.

### **Literature Review & Theoretical Framework**

There is growing consensus among scholars that the success of educational policy is better understood as a challenge of teacher learning and organizational capacity building rather than a challenge of faithful implementation (Cobb & Jackson, 2012; Gallucci, 2003; Little, 1999; Spillane, Reiser, & Reimer, 2002). Teachers can only *implement* instructional practices that they already know how to perform. Asking teachers to work with students and content in new ways to produce new and higher outcomes in student performance requires *learning*. Nevertheless, lofty instructional policy goals are

frequently matched with limited support for the learning necessary to change teachers' practice (Cohen & Barnes, 1993; Elmore, 2004). Standards-based accountability policies have heightened interest among researchers, policymakers, and practitioners in learning how to design professional development that can enhance the capacity of teachers and their schools to meet ambitious standards. In the following sections, I review the literature on the instructional capacity of teachers and schools that informs my theoretical framework.

### ***Fostering Synergy between the Capacity of Teachers and their Schools***

Elmore (2004) argues that educational policy should reflect reciprocity of accountability and support: *“For every increment of performance I require of you, I have a responsibility to provide you with the additional capacity to produce that performance”* (p. 89, emphasis in original). In practice, teachers have rarely experienced the intensive professional learning experiences necessary to meet the goals set by standards-based accountability policies (Cohen & Hill, 2001; Spillane, 2004). In a recent national survey, fourth-grade teachers reported placing more emphasis on lower level cognitive processes, such as memorization, and less emphasis on higher level processes, such as analysis, in their instruction than called for by the CCSS (Porter et al., 2011). Thus, teachers will need to learn to work in dramatically different ways to support students in meeting these new standards. Comprehensive professional development opportunities are needed to close the gap between current practice and the goals of the CCSS.

When effective, professional development has the potential to influence teachers' subject matter knowledge, understanding of students' thinking, and instructional practices (Borko, 2004). High-quality professional development has the potential to have a modest,

positive effect on teachers' practices in reading and math (Wallace, 2009) and a small effect on student achievement when there is extensive time for teacher learning (Blank & de las Alas, 2009; Yoon, Duncan, Lee, Scarloss, & Shapley, 2007). Similarly, researchers find that teachers are more likely to implement instructional practices aligned with standards when they have extensive opportunities for learning about standards and when those opportunities are closely connected to practice (Coburn, 2008; Cohen & Hill, 2001; Spillane, 2004), such as opportunities for learning about standards-based curriculum and assessments and engaging in content-specific professional development.

A recent survey of teachers revealed that almost all teachers had opportunities to participate in content-based professional development over the course of the school year (83%), but these opportunities were generally brief (Darling-Hammond et al., 2009). Most teachers (57%) reported participating in fewer than 16 hours of professional development on the content of the subject(s) they taught. Importantly, Yoon and associates (2007) found that professional development that lasts 14 hours or less showed no effects on student learning. This suggests that most teachers' professional development experiences are unlikely to lead to improvements in student learning.

In addition, professional development is often fragmented and disconnected from practice (Borko, 2004; Cohen & Ball, 1999; Stein, Smith, & Silver, 1999). Teachers frequently make individual decisions about professional development, signing up for workshops, conferences, or academic courses that provide superficial, disconnected, or even conflicting information about instruction. When teachers make individual decisions about professional development, they may be better able to identify opportunities that meet their learning needs than when districts require all teachers, no matter their

knowledge or experience, to participate in the same learning opportunities. However, unless coordinated, the sum of the learning activities of the faculty in a given school is unlikely to constitute a coherent instructional approach.

Building capacity among teachers is imperative. Mounting evidence suggests that teachers have the largest effect on student achievement of any school-based factor and that some teachers are much more effective than others (Rockoff, 2004; Rivkin, Hanushek, & Kain 2005; Rowan, Correnti, & Miller, 2002). The effects of teachers on student learning are especially pronounced for low-income students, who rely to a greater extent on schooling for developing academic skills than their more affluent peers (Downey, von Hippel, & Broh, 2004). This line of research has motivated policymakers to seek ways to identify and reward highly effective teachers while rooting out underperforming teachers. However, this approach fails to recognize the important role that school context plays in supporting teacher learning and development, including the potential for teachers to support the learning of their colleagues (Jackson & Bruegmann, 2009; Johnson, 2012). Instead, this focus on individual teachers assumes that a “school’s effectiveness is simply the aggregate of these individual teachers’ contributions to students’ learning” (Johnson, 2009, p. 2-3).

Policies that reinforce teacher individualism and isolation may make it more difficult for students to meet ambitious standards. “[I]f practices are specific to individual teachers rather than schoolwide, then students lurch between ineffective and effective practices and experience inconsistent teaching (Grubb, 2009, p. 207). Although the “egg crate” (Lortie, 1975) structure of classrooms in schools and widespread norms of autonomy and privacy reinforce the individual nature of teachers’ work (Cohn &

Kottkamp, 1993; Donaldson et al., 2008; Little, 1990), school context plays an important role in influencing teachers' instructional practice.

Schools as organizations can support teacher learning by providing direction for improvement efforts from school leaders, structures and processes for collaborative learning, and access to expertise. Principals can work with the faculty to set the direction for and sustain focus on improving instruction and student learning and create supportive conditions for collaborative teacher learning (Hallinger & Heck, 1996; Heck & Hallinger, 2009; Leithwood, Seashore Louis, Anderson, & Wahlstrom, 2004; Robinson, Lloyd, & Rowe, 2008). When teachers engage in close collaboration with colleagues, knowledge about content, students, and pedagogy that was once private can benefit the larger organization. This open exchange of professional knowledge directly benefits students. Using value-added measurements on student assessments to measure teacher quality, Jackson and Bruegmann (2009) found that students' achievement in math and reading improved when their teachers had the opportunity to work with higher quality teachers.

Although all schools have the potential to create the conditions that foster continuous professional learning, schools with high-poverty, high-minority student populations often have the weakest levels of capacity to do so. Following 100 Chicago schools over the course of seven years, Bryk and colleagues (2010) found that schools that improved student learning over time focused on building teachers' instructional capacity and strengthening collegial ties among teachers. While improving schools did not follow a particular pattern in terms of the makeup of their students, most schools that continued to struggle served students who were predominantly African-American and almost all ( $\geq 90\%$ ) low-income. Thus, low levels of capacity for improving instruction

and student learning in high-poverty, minority-majority schools will continue to result in inequitable outcomes for students without effective interventions for building capacity in these schools.

Research suggests that school capacity also influences the ability of teachers to respond to external demands from standards-based accountability policies. Principals can encourage teachers to enact standards-based practices by communicating messages about the importance of standards, choosing curriculum aligned with policy goals (Coburn, 2005, 2008), and creating supportive conditions for investigating standards with colleagues (Stosich, 2015b). Collaboration with colleagues can foster a shared understanding of instructional policy and effective practices for meeting reform goals (Coburn, 2001; Elmore, 2004; Stosich, 2015a). Abelman and Elmore (1999) found that school coherence, including teachers' shared expectations for teaching and learning, mediated teachers' responses to external accountability pressures. When there are low levels of internal agreement about the goals of the faculty or strong agreement around goals that contradict those of external policies, teachers may be less likely to meet the goals of standards. Further research is needed to understand how to build the capacity of teachers and their schools for meeting the goals set by standards-based accountability policies.

### ***Professional Development that Builds School Capacity for Instructional Improvement***

Scholars argue that professional development should be used to support the twin goals of building individual teacher and school capacity for improving instruction (Borko et al., 2002; King & Bouchard, 2011; Little, 1993; Newmann et al., 2000). Professional development has the potential to serve as “both a strategy for specific, instructional



change, and a strategy for basic organizational change in the way teachers work and learn together’’ (Fullan, 1991, p. 319). I use Newmann and colleagues’ (2000) framework for professional development that builds capacity to examine existing evidence of how professional development has been used to build school capacity and the questions these studies raise for continued research.

The concept of school capacity proposed by Newmann and others (e.g. Bryk et al., 2010; Darling-Hammond, 2010; Fullan, 2007) helps to clarify how professional development could be used to create strong and mutually reinforcing connections between teachers’ instructional capacity and the capacity of the larger organization. Newmann and colleagues conducted a series of studies on the experience of 9 urban elementary schools that served predominantly low-income students, engaged in diverse approaches to professional development, and had improved student learning. The researchers found strong evidence that professional development can be leveraged to enhance three key areas of school capacity: teachers’ knowledge and skills, professional community, and teachers’ leadership (Newmann et al., 2000; Newmann, Smith, Allensworth, & Bryk, 2001; Youngs & King, 2002). Although they found that the degree to which professional development was used to build capacity was mediated by principal leadership and initial school capacity, developing stronger leadership among principals was outside the scope of professional development in these schools. Recent research from King and Bouchard (2011) suggests that professional development can be designed to enhance the leadership practice of principals and teachers.

Teachers’ knowledge and skill is the frequent target of professional development efforts. A second component of school capacity is the level of professional community,

which describes an environment that supports teachers' collective learning through shared goals for teaching and learning, collaboration and collective responsibility for reaching these goals, reflective dialogue and inquiry into instruction and student learning, and opportunities for teachers to exercise influence over instructional decisions (Louis & Kruse, 1995; Newmann et al., 2000). In other words, teachers in strong professional communities are empowered to seek out and solve problems of practice rather than merely following a tightly controlled routine for collaboration prescribed by administrators or other outsiders (Hargreaves, 2003). Teacher collaboration can encourage teachers to experiment with new instructional approaches, develop shared understandings of effective practice through public and reflective dialogue, and, ultimately, lead to improved student learning outcomes (Goddard, Goddard, & Tschannen-Moran, 2007; Louis & Marks, 1998; Moolenaar, Slegers, & Daly, 2012; Thoonen, Slegers, Oort, Peetsma, & Geijssels, 2011). The final component of school capacity is effective leadership. Principals have the authority to influence each of the elements of school capacity as well as the power to include teachers in instructional decisions. Teacher leadership has been seen as a mechanism for improving the instructional capacity of the faculty by relying on skilled teachers to provide direct support to colleagues or design curricular resources for use schoolwide (Donaldson et al., 2008).

Research on how to design professional development that builds capacity is still nascent. Most studies examine how a handful of exemplary schools have used professional development as part of a schoolwide effort to build capacity for improvement (Borko et al., 2002; Newmann et al., 2000; Youngs & King, 2002);

however, these studies do not address the challenge of using professional development to build capacity in schools with low initial capacity. More recent studies have examined the potential for professional development that is explicitly designed to build capacity (Cohen, Peurach, Glazer, Gates, & Goldin, 2014; King & Bouchard, 2011). I review these studies and the questions they surface for research.

Borko and associates (2002) describe how four exemplary schools used professional development to build school capacity for meeting standards in Kentucky. Following a “train-the-trainer” model, a small group of teachers from each of the four schools participated in workshops on new standards-based assessments and were expected to turnkey this training to their colleagues. In this way, the schools relied on external expertise to enhance the instructional capacity of teachers and, ultimately, the faculty as a whole. The researchers described the leadership roles that teachers played as leading training events for other teachers based on the professional development that they had experienced, sharing information with colleagues, and answering questions that arose. By sharing information with colleagues, the teachers connected them with new information but did so in a way that protected teachers’ authority for determining whether they would apply these ideas in their classroom practice (Little, 1990). Borko and associates argue, “Through such sharing of materials and ideas, individually-oriented professional development provided resources for in-house professional development and helped to build the sense of professional community within the school” (p. 982). However, I would argue that these teachers act as middlemen who deliver information from experts rather than teacher leaders who exercise influence over instructional approaches.

Examining three different models of comprehensive school reform, Cohen and colleagues (2014) found evidence to support both top-down and bottom-up approaches to building the capacity of high-poverty schools to improve instruction. For example, the Success for All program dictated specific curricular plans and expected teachers, with support from outside experts, to follow these plans closely until they developed stronger instructional expertise. In contrast, the Accelerated Schools Project focused on developing strong professional community among teachers that focused on identifying problems, setting shared goals for student learning, and selecting, adapting, or designing curriculum to meet these goals. In this way, all teachers exercised leadership by influencing the school's instructional approach. Nevertheless, both of these programs sought to strengthen the instructional capacity of teachers schoolwide—either through external direction or internal agreement—and were found to result in improvements in instruction and student learning when schools fully engaged with these approaches.

Research from Newmann and colleagues (Newmann et al., 2000; King, 2002; Youngs & King, 2002) suggests that using professional development to build school capacity for improved instruction and student learning depends largely on the effectiveness of principals. In the nine urban elementary schools that participated in their larger study, the two schools that used professional development to build school capacity more comprehensively had strong principal leadership. While one school relied on a comprehensive curricular program and outside experts that set goals and gave feedback on implementation, the other school built capacity from the ground up by having teachers develop shared goals for student learning and engage in ongoing inquiry to figure out

how to meet these goals. In both schools, principals played a significant role in sustaining the focus on ongoing collaboration among colleagues that advanced shared goals for student learning. However, professional development itself did not address principal or teacher leadership at either school.

King and Bouchard (2011) examined a professional development program that used school-based, context-specific leadership coaching to build principal and teacher leadership for improved instruction. Similar to the CCIN, coaches worked with principals and a small group of teachers at each school to improve instruction, curriculum, and assessment. However, the researchers provide little information about how the act of placing teachers in leadership roles is expected to result in enhanced capacity for improving instruction. In one school with low levels of initial capacity, including low performance and limited collaboration among teachers, coaches provided support to principals and teacher leaders in developing structures for teacher collaboration, processes for focusing this collaboration on student learning, and support in communication and problem solving when teachers refused to collaborate. Although teachers on the leadership team had chosen this focus on teacher collaboration, they played only a limited role in leading the work of their grade-level teams. Instead, the principal, with the support of the coach, used his positional authority to compel the teachers to collaborate. The experience of this school calls into question whether teacher leadership is a promising entry point for building school capacity for instructional improvement in schools with low levels of capacity.

These findings raise questions about how professional development can be designed to enhance not only teachers' individual knowledge but also the ability of teachers and principals to work together to improve instruction and student learning. This study investigates three questions:

1. How do the professional development leaders describe the intended effects, if any, of the Common Core Innovation Network on teachers' knowledge and practice, professional community, and leadership in participating schools?
2. How do teachers and principals describe the effects of the Common Core Innovation Network, if any, on individual teachers' knowledge and practice, professional community, and leadership?
3. What contextual factors (e.g., professional norms, leadership, time) enable or constrain teachers' work related to activities from the Common Core Innovation Network?

## **Research methodology and analysis**

### ***Sample***

This article is part of a larger study on teacher learning about the CCSS. I followed three high-poverty elementary schools in the same large urban district in the northeastern United States over the course of one year (2013) as they participated in a district professional development program designed to develop teacher and school capacity for teaching to the CCSS. This program was designed to support 35 schools that volunteered to be early adopters of the CCSS and receive additional support for teaching to these standards. Given the sizable challenge of preparing all teachers in the district to

teach to new and higher standards, the district piloted an approach to developing capacity among a select group of teachers from each school who would then support the faculty as a whole in learning to teach to the CCSS.

I purposively selected three high-poverty schools that were in their third year of participating in the professional development program, served similar student populations, had demonstrated success in supporting student learning, and were at different levels of initial school capacity. I chose to focus my analysis on the two schools whose teachers engaged in both the collaborative planning and inquiry practices learned in professional development back at their school sites: Park and Bay Elementary. While learning from the CCIN influenced the work of teachers at the third school, Sunnyside Elementary, it played a much more limited role. At Sunnyside, only a small group of teachers volunteered to participate in collaborative planning and no teachers reported engaging in shared inquiry about instruction or student learning based on learning from professional development (PD). I chose to focus my analysis on Park and Bay Elementary, two schools that attempted to use the experiences of the select group of teachers who participated directly in network PD to influence the learning of teachers schoolwide.

Teachers at Park and Bay Elementary face comparable challenges in supporting students in meeting the CCSS because they serve similar student populations. More than 95% of students at each school were Black or Latino and more than 80% of students received free or reduce-priced lunch (see Table 1). I selected high-poverty schools ( $\geq 75\%$  low-income) (Aud et al., 2010) as the focus of this study because these schools have

typically struggled to support high levels of student achievement and often have low-levels of school capacity (Allensworth, Ponisciak, & Mazzeo, 2009; Bryk et al., 2010). I aimed to select schools serving high-need students that had the potential to support these students in meeting ambitious standards. Thus, I selected schools that had demonstrated average or above average student performance on previous state standards in comparison with schools serving similar student populations. The past performance of these schools suggested that they had the potential to productively respond to new and more ambitious standards.

**Table 1.** *School Demographic and Performance Profiles*

	<i>Bay Elementary</i>	<i>Park Elementary</i>
Students	244	521
Free and reduced price lunch	86%	81%
Limited English proficient	12%	6%
Special education	23%	20%
African American	57%	80%
Hispanic	39%	16%
Asian	2%	1%
White	2%	1%
Proficient ELAR 2012	31.4%	47.1%
Proficient Math 2012	53.7%	57.1%
Proficient or Advanced in ELAR 2013 (CCSS)	11.5%	18.3%
Proficient or Advanced in Math 2013 (CCSS)	14.8%	24.1%
<i>Source: State Education Data 2012-2013</i>		



In addition, I selected schools of differing levels of initial capacity for improving instruction and student learning according to school survey and district reviews of school quality. Although the district rated both schools as “proficient” in terms of the overall learning environment for teachers and students, Bay Elementary received higher average scores than Park Elementary on teacher surveys describing academic expectations, communication, engagement, and safety and respect at the school. This survey measured the degree to which teachers viewed the school as a place where students were held to high expectations for learning, the principal communicated a clear vision for improving instruction, teachers engaged in collaborative planning with colleagues, and teachers trusted and respected their colleagues. Thus, the differences in average survey scores at the two schools reflected differences in overall school capacity to support high levels of student learning. Researchers find that schools with higher levels of initial capacity are more likely to use professional development in ways that enhance school capacity for improving instruction (Borko et al., 2002; Newmann et al., 2000; King, 2002). If the goal of professional development is to build capacity among all schools, professional development efforts must include supports to enable schools that have lower initial capacity to benefit (King & Bouchard, 2011).

The CCIN focused on collaborative practices that teacher teams could use to build teacher knowledge and professional community for teaching to the new standards. I purposefully sampled teachers in third, fourth, and fifth-grade to participate in the study because these teachers are under substantial pressure from standards-based assessments to change their instructional practice and improve students’ performance. Focusing on the

experiences of teachers in the upper grades allowed me to examine their collaborative work in depth, observing team meetings, inviting all teachers on the team to participate in interviews, and conducting classroom observations to understand the influence of the PD network on their individual work and the work of the team. Unlike many high-poverty urban schools (Lankford, Loeb, & Wyckoff, 2002), these teachers and their principals were highly experienced and there was limited teacher turnover in these schools. Teachers had from 4 to more than 25 years of teaching experience. Most teachers had worked in their school for 10 or more years, and both principals had led their respective schools for 10 or more years. This study examines how professional development might be used to build capacity among experienced educators who face a new challenge: teaching to new and ambitious standards.

### ***Data collection***

I examined the professional development program from the perspective of the network leaders, teachers who participated in the program, and the larger faculty at each of the two focus schools. This allowed me to analyze the network leaders' theory for how CCIN learning activities would result in changes in teacher and school capacity (Weiss, 1995) against the experiences of teachers and principals who participated in the network. This approach allows me to examine whether and how the expectations of the CCIN's break down when confronted by the practices and beliefs of educators regarding instructional practice, collaboration, and leadership—the three areas the CCIN was designed to influence.

In total, 6 network leaders, 19 teachers, and 2 principals participated in the study. I conducted 10 network leader interviews, 30 teacher interviews, 4 principal interviews,

12 classroom observations, 7 teacher meeting observations, and 5 network professional development observations. I conducted semi-structured interviews (Seidman, 2006) with network leaders to learn how participating in the program was intended to support teachers and schools in learning to teach to the CCSS. In addition, I observed five professional development sessions and reviewed documents to understand the connection between teachers' experiences in the CCIN and their work back at their schools.

I interviewed principals to understand how, if at all, the professional development experiences were used as part of a schoolwide strategy for learning to teach the new standards. I interviewed teachers who had participated in network PD and their colleagues to understand how the learning experiences of this small group of teachers related to the work of the larger faculty. In addition, I observed participating teachers during instruction and team meetings to better understand the degree to which this work connected to network activities and the goals of the CCSS. Most interviews were recorded and transcribed verbatim. Detailed field notes were taken during observations and school site visits. I supplemented interviews and observations with document analysis, including review of instructional planning documents, student work, meeting agendas, and other relevant documents.

### ***Data analysis***

I used Newmann and associates' (2000) framework to examine the relationship between professional development activities and school capacity. These codes included five central factors related to school capacity: teacher knowledge and practice, professional community, program coherence, technical resources, and leadership. During initial data analysis and coding I compared how the professional development leaders,

principals, and teachers described the way in which the program connected to the instructional work in schools. I wrote interpretive memos about emerging themes and began to identify the supports and constraints for translating learning from professional development into improved school capacity (Miles & Huberman, 1994; Yin, 2009). This process surfaced shared assumptions about teacher autonomy among network leaders, teachers, and principals and differences in their views of teachers' expertise and leadership.

### ***Threats to validity***

The main threat to validity in this study is researcher bias because I have contributed to the development of research-based tools for enhancing school capacity for instructional improvement (see Stosich, 2014). This experience prompted my interest in examining the efforts of the CCIN. I engaged in continual self-reflection, or researcher reflexivity, about this potential source of bias and its potential for influencing my analysis to enhance the validity of my findings (Maxwell, 2013). As part of this, I constantly evaluated my findings against rival explanations as I analyzed the data (Yin, 2009). I explored whether the professional development experiences led to improvements in school capacity or, alternatively, whether the existing instructional capacity of teachers and schools or other factors better explained the experiences of the two schools.

### **Common Core Innovation Network: Theory of change**

Teachers who participated in the CCIN PD engaged in collaborative practices for designing curricular units aligned with the CCSS, using inquiry protocols to analyze and improve the degree to which these instructional plans met the expectations of the standards, and evaluating students' work against these standards. In addition, the network

offered workshops and coaching on designing curricular units aligned with the CCSS, instructional approaches related to the CCSS (e.g. close reading), specific content related to the standards (e.g. fractions), and methods for leading teacher teams during PD sessions and at school sites. The director described the theory behind the design of the professional development network:

I think that it's just been confirmed to me that the best way for teachers to work is to have collegial, professional relationships where they can share their work, talk about it, and have access to some expertise. Building those communities where people can really talk honestly about their work and get past personality issues and team dynamics is really important work and raises the level of professionalism. But it's bucking a trend of professional development that has been happening for years, which is that there is an expert who has all the information and you just need them and then you'll be able to work. So we've done a lot of work of reactivating teachers' own professional knowledge and helping them to take ownership, which I think has been really successful.

This description emphasizes the focus on building teachers' professional community rather than delivering expertise from above as the central theory for building capacity among teachers and schools for teaching to the CCSS. Nevertheless, the network leaders believed that their focus on enhancing teachers' professional community would be more successful if combined with efforts to enhance teachers' pedagogical content knowledge and abilities to lead collaboration among their colleagues.

The theory behind the CCIN was founded on five core assumptions:

1. Most of the professional knowledge and skills necessary to learn to teach to ambitious standards currently exists in schools.
2. Collaborative, inquiry-based practices for designing and evaluating curricular plans and students' work can support teachers' in learning how to meet the goals of standards and enhance teachers' professional community.
3. Teachers should exercise professional autonomy in determining whether and how to use instructional resources, approaches, and collaborative practices.
4. A small group of teachers can influence the work of the faculty as a whole by sharing resources, instructional approaches, and collaborative practices.
5. Some outside expertise is necessary for teachers to learn to work in new ways with students and with their colleagues.

In the following sections, I examine each of the core assumptions behind the network's theory for how professional development would enhance school capacity for teaching to the CCSS.

The CCIN's approach was based on the assumption that teachers were professionals who could draw on their existing instructional expertise to learn to teach to new and more ambitious standards. A network leader explained,

We operated under this belief that teachers are professionals. I think we believed in their knowledge and experience and their ability to figure these things out. They don't need somebody on high telling them the right way to do it. If they were given the time and space and resources, they could figure it out.

All network leaders emphasized in interviews and during professional development sessions that they were not experts there to tell teachers how to teach to the CCSS. One network leader commented that teaching to the CCSS was challenging because the standards were “not prescriptive.” He explained, “I still don’t know if I’m really doing the Common Core. This is hard. As a coach—I don’t call myself an expert—I’m a constant learner.” Instead of acting as experts who provided directives about the resources, instructional approaches, or collaborative practices in which teachers should engage, the network leaders sought to create opportunities for teachers to come together with colleagues from their own school and other schools in the network to figure out how to teach to the CCSS.

This focus on providing time and space for teachers to determine the best ways to meet the expectations of the new standards was designed to, in the words of another network leader, “empower” teachers as professionals but also appeared to be a reaction to what network leaders viewed as the local union’s protection of teacher autonomy in some schools. A network leader explained, “You can’t mandate schools to do certain things. One of them is planning. That’s against the union. You can’t mandate things. They should do what they want to do...They’re professionals.” Instead of mandating the use of particular instructional resources or curricular planning resources, network PD focused primarily on supporting teachers in engaging in specific protocols for designing curricular units that would meet the expectations of the CCSS and inquiry-oriented protocols for analyzing their instructional plans and students’ work against standards. Protocols, a set of explicit guidelines for teachers’ discussions, provided direction for

how teachers engaged with colleagues and encouraged teachers to focus their conversations on how specific evidence from curriculum, instructional practice, and students' work related to the new standards.

Network leaders explained that these protocols supported teachers in understanding the changes they would have to make to instruction to meet standards. For example, the protocol for looking at student work supported teachers in reflecting on whether their students had fully mastered the standards, what the implications were for their instruction, and what they would need to do differently for all students to meet these standards. Protocols tightened the connection between teachers' collaboration and the new standards but left teachers professional discretion in making decisions about their instructional practice based on this process. In addition, these protocols were designed to, as one leader put it, "develop community" among by providing guidance of how they interacted with colleagues around instruction.

Network leaders were also available to support teachers in engaging in these collaborative practices with colleagues back at their school. For example, during one session, teachers used a protocol for determining whether the texts they had selected for their curricular unit were complex enough to meet the expectations of the CCSS. A network leader came by to check in with a group of teachers about why they had chosen the texts for their curricular unit. The teachers explained that they were confused about how to use the suggested website to determine the level of text complexity as part of the multiple-step protocol. The network leader said she could help them with this during her



next school visit, offering optional technical support to assist them in using the protocol for selecting texts for instruction.

Professional development leaders quickly learned that engaging teachers in an inquiry-oriented process for developing and revising curricular plans was difficult because teachers varied greatly in their knowledge, skills, and beliefs about curricular planning and content. A network leader explained that some teachers brought in copies of assigned questions or problems from a textbook when asked to bring in a curricular unit; whereas, others brought in detailed curricular plans that they had created from scratch. To address this, they engaged teachers in what one network leader described as a “gradual release” process, moving from using curricular plans developed by external experts to learning to design their own plans. In this way, the network provided specific models of curriculum that experts regarded as standards-aligned.

In addition, the CCIN provided training in instructional strategies, content, collaborative practices and leadership techniques based on the needs that they identified from reviewing teachers’ curricular plans, observing teachers’ instructional practice, and visiting schools. Most training focused on explicit learning about instructional planning (e.g. planning curricular units), pedagogical approaches (e.g. close reading, questioning), and content related to the CCSS. The director explained that the inquiry approach was “an effective way to get you a long way, but at a certain point, you have to introduce new knowledge or content.” For example, three network leaders said that teachers were beginning to develop strong curricular units but were unsure how to support students in learning from the texts they had selected, so the network offered workshops on close

reading, an instructional strategy to assist students in comprehending complex texts. The network also provided explicit leadership training for teachers, including leading team meetings and discussion facilitation. For example, during a workshop on facilitating teacher team meetings, participants, learned about research on effective teams, evaluated how effective their team meetings were for supporting learning, and learned strategies for solving common problems faced when working as a team.

Network leaders asked each school to create an “instructional cabinet,” a team of teachers who would develop expertise in teaching to the CCSS and lead these efforts back at their school. According to the director, there was “an expectation that they [were] scaling the work with the Common Core schoolwide” by choosing practices and resources from network PD to “adapt or adopt” as a school. A network leader described this process:

The instructional cabinet would try things first. They would come back. We would look at the students’ work. And in the interim, we would ask them to work with other teachers who were not on the instructional cabinet back at their school and say—hey, there’s this [unit planning template]. Look at the students’ work we got from it. You may want to try it as well.

This description highlights the assumption that teachers who had changed their practice as a result of network PD could influence the practice of their colleagues by sharing information about practices and resources but also the expectation that they would do so without threatening teachers’ authority for deciding whether or not they would adopt these practices.

The director explained that participants “might be using protocols that they learned in [professional development] back at their school in teacher team meetings, or they might have been creating a system where they looked at student work cross-grades.” For example, during one PD session, a teacher presented about how Humanities teachers at his school were conducting weekly PD sessions to share about what was and was not working in terms of teaching to the CCSS and improve the curricular units they had designed to meet the new standards. He explained that he made a small but meaningful change from “define” to “discuss” heroism as the focus of the culminating task for a curricular unit based on the feedback of his colleague. He shared the feedback from his colleague, which questioned whether the task would better meet the goal of the standard if it were an explanatory task. He explained that this feedback helped him to better understand the work students would need to do to meet the standard and the kind of texts students would need to read to support their writing. At the end of the presentation, the teacher announced that teachers from his school would be hosting a webinar for network members to share how they rolled out this work of to the full faculty of the school. Making time for participants to share their work created normative pressure for applying the collaborative practices learned in professional development at their school sites and reinforced the message that teachers should exercise leadership in setting the direction for the work of their school.

The structure of the instructional cabinet only lasted one year because it violated norms of egalitarianism protected by union advocates. The director explained, “The union came out against identifying instructional leads city-wide and then providing

professional development because they considered it to be preferential treatment for a subset of teachers.” Thus, the concept of building capacity by developing a cadre of expert teachers violated the professional norms of egalitarianism that were reflected in the flat structure of the profession. However, one explanation for the local union’s opposition to the structure of the instructional cabinet was the fact that there were no clear guidelines for how principals would determine which teachers should be selected for this team of teacher leaders. Given the strong professional norms of egalitarianism and autonomy, developing authentic opportunities for teacher leadership entails transparent selection criteria, stable and clearly defined roles, and deliberate support from principals and district leaders (Donaldson et al., 2008).

Network leaders recognized the important role that principals play in supporting the efforts of the instructional cabinet; however, their main focus was engaging teachers’ in collaborative practices for curricular planning and inquiry. They asked principals to attend at least three professional development sessions over the course of the school year in an effort to involve principals in the network, but they had no formal authority to compel principals to participate. This was evident since the principals from Bay and Park Elementary were not present at any of the five professional development sessions observed.

### **Common Core Innovation Network: The Experience of Teachers in High-Poverty Schools**

Bay and Park Elementary were located in the same neighborhood in a large urban district, had principals who had led the school for ten or more years, were staffed by experienced teachers, and served similar, high-need student populations. However, the

schools differed in three important areas of school capacity: teachers' knowledge and skills, teachers' professional community, and principal's leadership. Bay Elementary teachers had experience designing and teaching curricular units, a key process for learning how to teach to the new standards in the CCIN. In contrast, the Park Elementary teachers had little experience planning curricular units and the principal described instructional planning as "something that [had] always been a challenge for teachers." Bay teachers also viewed their professional community more favorably than Park teachers. In a district survey, for instance, 58% of Bay teachers but only 34% of Park teachers strongly agreed that teachers in their school worked on teams to improve their instructional practice. Finally, the principal at Bay Elementary made network PD a priority at their school, used teacher team and faculty meetings to engage in collaborative curriculum development and inquiry processes learned in network PD, and brought in network leaders to support the full faculty in engaging in this work. At Park Elementary, the principal required teachers to develop curricular units and encouraged teachers to share their experiences from curriculum development and inquiry work with colleagues but offered limited support for the process. The higher level of school capacity at Bay Elementary seemed to enable the school to leverage network PD to enhance teachers' instruction and collaborative practices schoolwide. All Bay Elementary teachers described or were observed developing curricular units based on the CCSS and engaging in inquiry-based practices for analyzing and improving their curriculum and instruction. At Park Elementary, network PD led to meaningful changes in instruction and collaboration among only a small group of teachers.

Importantly, the way in which professional development led to enhanced teacher and school capacity for meeting the goals of the CCSS differed from the network's theory of change in important ways. Despite differences in the overall capacity of the two schools, there were four common patterns in how teachers and principals responded to network PD. First, teachers who participated in network PD were not seen as particularly knowledgeable about teaching to the CCSS and had little influence over other teachers in their school. Second, collaborative practices for curricular planning and inquiry did support meaningful learning among teachers who fully engaged in these practices; however, this learning did not reach beyond the groups of teachers who participated in these collaborative practices. Third, teachers and principals sought out network leaders for expertise and described school-based support from these leaders in instruction and collaborative practices as some of the most meaningful learning experiences they had related to the CCSS. Finally, the degree to which network PD influenced teachers' practice depended largely on the leadership of the principal rather than the actions of teachers on the instructional cabinet. In the following sections I explore how the teachers and principals at Bay and Park Elementary responded to network professional development, how their actions relate to the CCIN's theory of change, and the implications for designing professional development that builds capacity in high-poverty schools.

***“Leading” while learning***

Teachers reported that the teachers who had participated in network PD were still learning themselves, so sharing information and resources was often challenging. A Bay teacher explained, “Only certain teachers went out to the training, so then they had to come back and try to give us information. But it was based on their interpretation, and there were so many inconsistencies.” Teachers described their efforts to develop curriculum and engage in inquiry about teaching to the new standards back at their school as a messy process that involved, in the words of one Park teacher, “a lot of trial and error.”

Bay teachers had experience planning curricular units, but designing units that met the expectations of the new standards presented a major challenge for teachers. For example, the CCSS call for students to read complex texts, use evidence from these texts to support their arguments, and to do this with greater independence than required by previous state standards (CCSSI, 2010). A Bay teacher explained that information about *what* to do for the network—develop a task that requires students to read and use evidence from complex texts to support ideas—did not help her understand *how* to meet these expectations given the current abilities of her students:

Throughout the process, [the network was] sending out memos that say—these are the expectations and the dates things need to be done. The only problem was the text because it's hard to find texts that are...on grade level and complex but that all the kids can have access to. The culminating task has to be a text that you don't teach into, that the kids read on their own. When you have kids who are severely below grade level and close to grade level, that can be challenging.

Teachers who participated in network PD shared information and resources for planning CCSS-aligned units, but this sharing did not help to address the complex challenges teachers faced in preparing students to meet the rigorous demands of the new standards.

At Park, teachers who participated in network PD communicated the expectations for designing curricular units to the full faculty, but they had little experience planning curricular units and limited understanding of how to design units that would meet the expectations of the CCSS. All teachers at Park described designing units aligned with the new standards, but their curricular plans and students' work revealed their limited understanding of the goals of the new standards. For example, the third-grade teachers developed and taught a unit on China that involved teachers reading aloud several books on China and students creating brochures about China with lists of information about the country. This unit failed to meet the expectations of the standards because students did not read the texts independently nor did they use evidence from texts to support their ideas in writing. According to a teacher on the team, the instructional cabinet told them that students "were supposed to do some more writing" than they had required. When they handed in their unit to the instructional cabinet, they asked which of the standards the China unit was designed to meet. According to one teacher, the third-grade teachers found it difficult to answer this question. She explained:

There was nothing about brochure [in the CCSS], so I said it could've been a persuasive piece...if it were rearranged differently where the students write a letter persuading a friend [to go to] China. That's what we did not do. We just looked at the ELA standards to see which we are covering.



They had started with the activity—create a brochure—rather than the standards. She thought that they had gotten off track because the instructional cabinet was “only giving [them] the information in pieces, so they give you a little today. If you think you have it, you run with it.” For example, she thought her team would have been more successful if they had known about the network’s unit planning template, described below, prior to designing the unit. This unsuccessful experience seemed to discourage the team from continuing to plan curricular units. Due to the limited understanding of how to meet the new standards among teachers who participated in network PD at Bay and Park, their efforts to share information and resources with colleagues had little influence on their colleagues’ understanding of the CCSS and their implications for practice.

***The promises and limits of collaboration for building professional community***

Teachers did describe changing their instructional practice to meet the goals of the CCSS when they fully engaged in the collaborative planning and inquiry practices promoted by the CCIN. Although collaborative planning and inquiry in grade-level teams was an established practice at Bay, three teachers described using the Literacy Design Collaborative’s (LDC) (2012) unit planning template, which was introduced in network PD, as helpful for designing curricular units that met the goals of the new standards. The unit planning template encouraged teachers to design learning experiences that required students to read multiple texts and use evidence from these texts in their writing by including sample task descriptions and a set of “built in” reading and writing anchor standards that every unit should address, including standards that called for students to read independently, make inferences from text, and cite specific textual evidence when

writing or speaking to support conclusions drawn from the text. A Bay teacher explained: “We’re doing the LDC framework for teaching, so our tasks are framed—there is a question and there is a task and they have to give text evidence after reading a certain text or after studying a topic.” She explained that this was a change from the units they had developed previously. For example, they used to have students write informational books “on a topic of their choice.” These topics were often familiar ones to students, such as hairdressing, and students wrote based on their personal knowledge and experience rather than reading and using text evidence in their writing about the topic. Thus, the network’s focus on developing units and using planning templates to guide this collaborative work moved the curriculum of this teacher and her grade-level colleagues closer to the goals of the standards. A special education teacher who worked with both the third and fourth-grade teams found the LDC unit templates useful because they reflected “the kind of writing that [students] are expected to do” on the new assessments. However, she noted that the third grade team chose to use these templates but not the fourth-grade team. Learning and changes to practice that resulted from collaboration in one team did not seem to influence the work of other teams in the school.

Norms of autonomy can make it difficult for learning in one group to influence teachers outside the group. At Park, for example, a Common Core Committee, comprised of teachers who participated in network PD and several who had not, reviewed students’ work from the school using a protocol to evaluate alignment with the expectations of the CCSS from the network. The unit plans developed by the first-grade team stated that students would explain the meaning of the three kinds of matter in words and illustrations after reading and being read aloud informational texts on the subject. Most students had

written information about different kinds of matter and provided examples to support their ideas. Students in one class, however, had copied sentences with missing words related to matter and filled in the missing words from a list of choices. Students' work from this class failed to meet the expectations of the standards and reflected the low level of accountability among colleagues for following through with decisions made by their team. A third-grade teacher explained, "Even though teachers plan on grade, they don't normally teach what they are asked to teach." A teacher on the committee asked if she could speak with the first-grade teacher about her students' work, but this suggestion was quickly shut down by two teachers on the committee. They explained that they should not "personalize" their feedback. Teachers at Park expressed frustration with colleagues who did not follow through with decisions made by their grade-level team but did not challenge teachers' autonomy in making instructional decisions, even if they disregarded decisions made by the team that would have more closely aligned with the new standards.

Four fourth-grade teachers at Park committed to working together to design and adapt curricular units and engage in inquiry practices from the network and reported that these experiences, in the words of one teacher, "raised the bar" for their instruction and their students' learning. For example, one teacher in the grade had attended network PD and shared a model curricular unit on child labor with her team. Initially, these teachers all thought that the unit was too difficult for their students. The unit included complex articles, political cartoons, and advanced vocabulary. However, they knew their students would be held accountable for meeting the expectations of the CCSS and viewed the support of their colleagues as essential resources for learning to teach to these new expectations (see Stosich, 2015a for details). Thus, they committed to working together

on to teach the unit and spent months picking apart articles, developing graphic organizers, and other supports for their students. A teacher on the team explained that the process of adapting the unit together supported them in learning to teach to the new standards:

Learning how to scaffold, learning how to break things down, asking these questions of the students as they're reading to get them to understand it, all of that came from the child labor unit. Year after year it just got a little easier to do.

The four fourth-grade teachers said that the experience of working together to adapt and teach the standards-based unit improved their understanding of how to teach to the CCSS and their ability to work as a team. They continued developing their own units after this experience because they witnessed improvements in their students' work and assessment scores. In fact, the fourth-grade students scored higher than the district average for the grade-level despite including more low-income students than most district schools. This earned the teachers distinction in the school.

Three Park teachers said that learning about the fourth-grade teachers' success with curriculum planning and inquiry during faculty meetings had influenced their thinking about instruction. However, none of these teachers had made specific instructional changes based on this learning. Instead, they spoke broadly about trying to include more instruction focused on vocabulary. Thus, sharing about the success experienced in teams had little influence over the work of other teachers. Guskey (2002) argues that teachers change their practices and beliefs when they try out new practices and see evidence that these changes result in improvements in students' learning. This theory for how professional development changes teachers' practice runs counter to the

idea that instructional cabinet members could change the practice of their colleagues by simply sharing stories of their own success. Teachers need opportunities to try out new instructional and collaborative practices with support from experts. The fourth-grade teachers were motivated to sustain their efforts to design curricular units and engage in inquiry because of the improvements they witnessed in student learning. This suggests that greater support is needed for all teachers when asking them to engage in new practices, whether these are instructional approaches for teaching reading or collaborative practices for examining student work.

### ***The power of external support***

The principals and teachers at both schools looked to network coaches for expertise about the new standards and information about how to plan units that would meet these standards. Network leaders provided explicit training in instructional approaches, feedback on curricular plans, and support for using collaborative protocols for teachers and schools who requested assistance. Recognizing the need for expertise and support, the principal at Bay Elementary asked network leaders to come to the school to provide explicit training for all teachers in developing curricular plans that would align with the CCSS and engaging in inquiry practices. A teacher described why support from a network leader in teaching students to comprehend complex texts was more helpful than that from teachers who participated in network PD:

One time when the network [leader] came, instead of just two teachers that were selected to go out to the Common Core [network], when they actually came in and has us read a text and then they gave us a template. They had us come up with possible questions or prompts that the students would answer. I thought that was

helpful and that it allowed me to go from point A to B. I now know what my students are expected to do. In creating the task, I know exactly what kind of instruction I have to provide for them to be able to be successful at it... It was step by step for me. It was, okay, read this. Now I'm going to look at this template. Now think about the question. You have to start with a focus question. No, let's revise that. It really was step by step.

Five Bay teachers reported that having outside experts model how to develop instructional plans and carry out instructional approaches, such as close reading strategies, was helpful for learning how to teach to the new standards. One teacher had attended two network PD sessions on designing curriculum units, but said that the job-embedded support from network leaders was essential for learning to teach to the new standards. She explained: "We totally needed someone to hold our hands and guide us along" because the expectations for CCSS-aligned units were dramatically different from the way they had been teaching.

Evidence that teachers had learned the strategies modeled by network leaders and incorporated them into their instructional practice was evident in classrooms and in discussions with the faculty at Bay. For example, in both 5<sup>th</sup> grade classrooms examples of a close reading strategy were posted. There was a sign that read "We Stop and Jot" and examples of the notes students had taken while reading a text were posted. Similarly, during a fifth grade lesson students wrote a persuasive essay based on notes they had taken from an informational video. The strategy used for close reading had been applied to learning from the historical video. The principal reported that they were seeing the results of changes in teachers' instructional practice in the work of their students. Now

their students were “not just pulling out information” from texts, they were thinking about what they read and using evidence to support their ideas in writing.

Network leaders also supported Bay teachers in engaging in inquiry protocols for analyzing and improving their instructional practice. For example, a network leader facilitated a protocol for observing teachers’ instruction and giving feedback on how well they addressed the standards. Two teachers described the opportunity to get feedback from colleagues on their instruction as one of their most meaningful professional learning experiences related to the new standards. Each teacher set a goal for how they would improve their instruction, received feedback from their colleagues, and reflected on how they could improve. A teacher described how the protocol worked:

We all had to say something positive, and then we’d have to say something negative. So you have to hear it all. There were some tears, but we learned from it. That was the intention, for us to do better and to improve our craft.

Another teacher explained that teachers were “cautious in how we talk—professional—but we [gave] constructive criticism.” The use of the protocol for providing guidelines for observation and feedback together with the support from an external expert enabled teachers to critically evaluate their instruction against standards.

Similarly, the fourth-grade teachers at Park sought out support from a leader in the network for using inquiry protocols. A teacher explained how the network leader supported their collaboration: “She’ll go over the protocols with us if there’s a protocol that we don’t understand. She’ll introduce us to new protocols.” For example, in their last meeting this teacher had a student who was struggling with vocabulary, so she used the tuning protocol to get feedback from her colleagues. “I spoke first and explained the

situation. Then my colleagues were able to ask me clarifying questions about the student...Then after that, they were able to give me some feedback about what I should try out with the student.” As part of the protocol, she planned to follow up with her team for further advice after trying out their suggestions. The teacher explained that support from the network leader for using these new protocols for collaboration had helped them become a more effective team, but this was also a result of the team’s willingness to seek out and accept this support: “I think that without the willingness to try it, she's wasting her time.” On the other hand, limiting the benefits of external support to groups who requested it led to increased capacity among groups that had higher levels of existing professional community: the full faculty at Bay Elementary and the fourth-grade teachers at Park Elementary.

***The critical role of principal leadership, the potential for teacher leadership***

Contrary to the CCIN’s theory of change, principal leadership rather than teacher leadership had a major influence on teachers’ understanding of the CCSS and their implications for practice. At Bay Elementary, teachers described the principal as the driving force behind their focus on working with their grade-level colleagues to create shared curricular plans and examine student work to inform their instruction. The principal used her positional authority to compel teachers to engage in the collaborative planning and inquiry practices learned during network PD and brought in network leaders to support these efforts (see Stosich, 2015a for details). Although collaboration had always been encouraged at Bay, the principal made collaboration a priority during the year of the study by changing the schedule to allow more time for grade-level teams to work together and making time for collaborative inquiry during faculty meetings.



According to one teacher, three out of four faculty meetings were reserved for inquiry work in grade-level teams. Importantly, the principal's efforts to make the work of the network the focus of her school's improvement efforts was not a result of the efforts of the CCIN. Instead, the strong instructional leadership from the principal, an essential element of school capacity, contributed to the school's ability to use professional development to support all teachers in learning to teach to the new standards.

The Bay Elementary principal viewed their involvement in the CCIN as central to their work with the CCSS but rejected the idea of putting together a large instructional cabinet. Given their small size, having a teacher from each grade out for professional development would leave them with only about half their faculty. Instead, two teachers participated in network PD, came back and shared their learning with the principal, the faculty as a whole, and in their grade-level teams. At Bay, all teachers were expected to exercise leadership by sharing information and resources from professional development during faculty meetings. Teachers who attended the CCIN shared about their experience in this same manner. This form of teacher leadership reflected the responsibility that all teachers held for supporting their colleagues. At the same time, this approach to sharing reinforced the equal status of teachers and protected teachers' authority for making decisions about which ideas, if any, they would use during instruction.

The Park principal chose to involve many teachers in leading the efforts of the CCIN at their school by creating a Common Core Committee comprised of teachers who attended network PD and several who had not attended. The principal viewed the committee as critical in leading the work around the CCSS: "They play a very vital role in meeting their colleagues where they are, talking with them one on one, inviting them

into their classrooms to show them how to go about implementing certain features of the Common Core.” The principal encouraged teachers to share the success they had experienced teaching CCSS-aligned units and engaging in inquiry, but, as described above, this sharing had little influence over their colleagues’ practice. Three teachers on the committee described their experience on the committee as helpful for their own learning about the CCSS and willingly shared information and resources with their colleagues on their grade-level teams and in faculty meetings. However, they often met resistance from their colleagues: “When we bring it back, they’ll hear you. They’ll do the work, but they’re not really doing it as they should because they don’t feel that it’s going to stick.” The principal encouraged collaborative planning and inquiry but provided limited support and no accountability for engaging in these processes. Thus, for most teachers at Park Elementary, network PD led to little change to their curricular plans or collaboration with colleagues.

### **Promises and Challenges for Designing Professional Development that Builds Capacity in High-Poverty Schools**

Professional development designed to build capacity in high-poverty schools must address deeply rooted challenges of weak instructional knowledge among teachers, strongly held norms of individual autonomy and egalitarianism that repel efforts to build professional community, and ineffective instructional leadership from principals. This represents an immense task for any professional development intervention. However, comprehensive, school-based intervention is necessary for teachers and leaders in high-poverty to develop the capacity to respond effectively to new and higher standards. Although participation in CCIN professional development led to changes in instruction

and collaboration among some groups of teachers, the network's approach was insufficient for enhancing the overall capacity of schools to meet the CCSS. Similar to past research (Borko et al., 2002; Goldsworthy et al., 2013; Newmann et al., 2000; King, 2002), I find that the school with a higher level of initial capacity, Bay Elementary, was better able to leverage professional development to enhance school capacity.

The discrepancies between the CCIN's theory of change and the experiences of the teachers and principals at Bay and Park Elementary can inform the design of future professional development for building capacity in high-poverty schools. Specifically, professional development should address three core principles:

1. Intensive collaboration among teachers can support meaningful learning about instruction and build professional community but these positive effects are limited to those teachers who choose to deeply engage in these practices.
2. Principals determine whether and how professional development is used as part of schoolwide strategy for improving the instructional capacity of teachers and the school.
3. External interventions should be proportional to the needs of teachers and their schools.

When teachers engage in collaborative practices for instructional planning and inquiry with support from experts, they may change their instructional practices and beliefs in ways that support improvements in student learning. This approach connects opportunities for learning directly to teachers' instructional planning, the work of their students, and their collaboration with colleagues. However, the experiences of Bay and Park Elementary suggest that learning in one group of teachers is unlikely to influence

teachers outside this group. Teachers need opportunities and support for experimenting with new approaches and monitoring their influence on student learning. Teachers at both schools made sustained commitments to working with colleagues to plan and improve their curricular plans when they witnessed improvements in their students' performance. Support and accountability for these collaborative processes from the principal may help to enhance teachers' professional community schoolwide. Nevertheless, questions remain about how to translate the learning of teacher teams into a coherent organizational approach to instruction.

The experiences of Bay and Park Elementary reinforce the important role of principals in building school capacity for meeting ambitious standards. At Bay, Principal Cooper used network professional development as part of a schoolwide strategy for building school capacity. She sought out expertise from network leaders, provided time and support for collaborative planning and inquiry, and sustained the focus on instructional planning and inquiry over time. At Park Elementary, limited direction for teachers' collaboration produced changes in practice proportional to the number of teachers who were intrinsically motivated to deeply engage with approaches for instruction and collaboration introduced by the network. Although research on principal professional development is limited (Grissom & Harrington, 2010), recent research suggests that school-based coaching may be effective for enhancing the capacity of principals in low-performing schools to lead schoolwide improvement (King & Bouchard, 2011). High-poverty schools are frequently staffed with less experienced principals or principals who attended less selected undergraduate institutions than schools serving more affluent students (Loeb, Kalogrides, & Horng, 2010). Without direct

support for principals, professional development will likely fail to produce widespread improvements in many high-poverty schools.

Fullan (2007) argues, “The need for external intervention is inversely proportionate to how well the school is progressing” (p. 46). The ultimate goal of building school capacity is to develop strong leaders and professional communities that work together to engage in sustained professional learning to meet shared goals. Developing this strong internal commitment in schools with low levels of capacity may demand strong external intervention. Job-embedded professional learning at Park and Bay enhanced teacher capacity and professional community at the two schools, but the benefits of this support were limited to groups who requested it. When professional development providers respond to calls for support rather than initiating support, they may miss opportunities for building capacity in those schools that need this support the most. However, these proactive interventions must overcome teacher resistance to experiment with new approaches for instruction and collaboration. Further research is needed to understand how professional development efforts can more effectively build school capacity for ambitious teaching and learning among schools with the greatest need for these interventions.

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**VITA**  
**Elizabeth Leisy Stosich**

2000-2004	University of California, Berkeley  Berkeley, CA	B.A.  May, 2004
2005–2007	University of San Francisco  San Francisco, CA	M.A.T.  August, 2007
2005-2006	Teacher, Education for Change at Cox Elementary  Oakland, CA	
2006-2007	Teacher, St. Peter’s Elementary School  San Francisco, CA	
2007-2009	Teacher, Civicorps Elementary  Oakland, CA	
2009–2012	Harvard Graduate School of Education  Cambridge, MA	Ed.M.  May, 2012
2009–2015	Doctoral Candidate, Harvard Graduate School of Education  Cambridge, MA	
2010-2015	Research Assistant, Harvard Graduate School of Education  Cambridge, MA	
2010	Research Intern, OECD  Paris, France	
2011	Teaching Fellow, Harvard Graduate School of Education  Cambridge, MA	
2012	Adjunct Instructor, Pace University  New York, NY	

2013-2014     Field Supervisor, Teachers College, Columbia University  
New York, NY

2013-2014     Adjunct Instructor, Hunter College  
New York, NY